सत्यमेव जयते
DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

Religious Jain Minority | DST-FIST Level-I

Affiliated to Shivaji University, Kolhapur

Reaccredited by NAAC (3rd Cycle) with 'A' Grade (CGPA 3.24)

DBT-STAR COLLEGE SCHEME

ANNUAL PROGRESS REPORT (2024-25)

DEPARTMENT OF BOTANY

Dr. Suraj D. Umdale
Departmental Coordinator

Dr. Sandip Sabale
Coordinator
DBT-STAR COLLEGE SCHEME

Dr. Surat Manjare
Principal
JAYSINGPUR COLLEGE JAYSINGPUR

Activity Report 2024-25

LIST OF DEPARTMENTAL ACTIVITIES

Sr. No.	Tile of Event	No. of Beneficiaries	Date
1	Industrial Visit B. Sc. 3 Students	22	17th August, 2024
2	Wallpaper Activity	20	31st August, 2024
3	Seminar Competition	22	28th September, 2024
4	Botanical Field Visit of B. Sc. I students	81	5th October, 2023
5	One Day Workshop on Herbarium Technique	84	8th October, 2024
6	Botanical Excursion of B. Sc. 3	20	12th to 14th December, 2024
7	Two Day Workshop on NET/SET/ GATE Guidance	34	30th & 31st December, 2024
8	A Lecture On "Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work"	100	08th January, 2025
9	Seed Exhibition	124	29th January, 2025
10	Visit to National Research Institutes/Laboratories	25	5th & 6th, February 2025
11	Celebration of National Science Day-2025	135	28th February 2025

A Report of

Industrial Visit

to

Janani Biotech &Tissue Culture Lab, Pimpalgaon

S. G. Phyto Pharma Pvt. Ltd, Gokul-Shirgaon MIDC,

Warna Biotech &Tissue Culture Lab, Nave Pargaon,

on

17th August, 2024

Organized by

Department of Botany,
JAYSINGPUR COLLEGE JAYSINGPUR

Under the Aegis of

DBT-STAR COLLEGE SCHEME

ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	Industrial visit of B. Sc. III Students
Date:	17th August, 2024
Venue:	1) Janani Biotech & Tissue Culture Lab, Pimpalgaon S. 2) G. Phyto Pharma Pvt. Ltd, Gokul-Shirgaon MIDC 3) Warna Biotech & Tissue Culture Lab, Nave Pargaon
Financial Assistance	DBT-STAR COLLEGE SCHEME
Tour in-charge:	Dr. Pravin B. Karuna
Organised for: College/class/ staff	B. Sc. III Students
No. of Participants	20F +02M (01 staff)= 22 (01staff)
Nature: (e.g. Academic, cultural, sports etc)	Academic Activity
Objectives of the Activity	The objective of industrial visit was to explore industrial carrier opportunities and familiarize the students with tissue culture techniques
Short Report (in English)	The Department of Botany organised the industrial visit to S. G. Pharma Pvt. Ltd; Warna Biotech & Tissue Culture Lab; Janani Biotech and Tissue Culture Lab. A total 22 students and 01 faculty were participated in this visit. The present visit increased the knowledge of students about the tissue culture techniques and also received the hands-on training of sterilization techniques and hardening of plants.
Outcome/Remark	The student got exposure and knowledge of various industries, research laboratories and job opportunities around Kolhapur MIDC area. After visiting Warna Biotech & Janani Biotech students are able to know the operation of tissue culture labs and innovative tissue culture start-up programs.

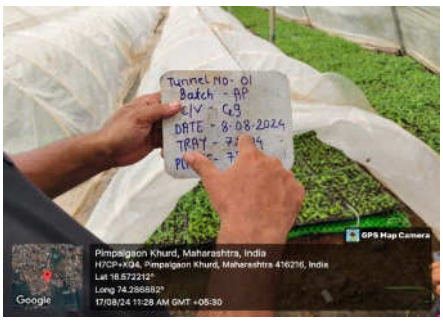
Industrial Visit of B. Sc. III Students

17th August, 2024

The Department of Botany has organised the industrial visit to Janani Biotech and Tissue Culture Lab, Pimpalgaon, S. G. Phyto Pharma Pvt. Ltd; Warna Biotech & Tissue Culture Lab, Kolhapur under the aegis of DBT-STAR COLLEGE SCHEME on 17th August, 2024. A total 22 students and one faculty member were participated in this industrial study tour. The teachers and students assembled and started journey from central Bus stand of Jaysingpur at 7.00 am. They reach at Janani Biotech and Tissue Culture Lab, Pimpalgaon, at 10.00 am via Kolhapur. During the visit the students were visited sterilization section, media preparation section, inoculation section and hardening section.

The Janani Biotech and tissue culture laboratory is proudly one of the major exporter and producers, manufacturer of banana Plants, banana tissue culture, etc. technically raised by tissue culture. Mr. Subhash Patil (Director) greeted us with warm welcome note. He has given introduction of Janani Biotechs profile, vision and popular products along with new sites. He told the expectations from students during interviews, regarding basic knowledge of your area Visit to Inoculation room, tissue culture lab, Incubation room washing area, nutreint medium preparation room. Mr. Subhash Patil explained about the facilities available inside the lab, their methods of collecting explants from mother plant, raw material, the equipment's used for the tissue culture lab and their storage and different unit. He also explained about the maintenance of the equipment and ethics considered during devolving G-9 Variety of Banana plants and about regularity guideline. In sterilization section, students have learned the various methods of sterilization techniques and learned about the hardening process of tissue cultured plants of Banana, Sugarcane and Bamboo plantlets. This visit was mainly focused on to understand the procedures involved to develop Tissue culture plants from explants.

The present visit increased the knowledge of students about the tissue culture techniques and hardening of plants at polyhouse. The students received the commercial knowledge of tissue culture industry.



Industrial Visit to Janani Biotech & Tissue Culture Lab, Pimpalgaon

Industrial Visit to S. G. PHYTO PHARMA PVT. LTD, Gokul-Shirgaon MIDC

2) Industrial Visit to S. G. PHYTO PHARMA PVT. LTD, Gokul-Shirgaon MIDC, Kolhapur

The students have reached on 1:30 pm at S. G. PHYTO PHARMA PVT. LTD, B-53/D-21, M.I.D.C., Gokul Shirgaon, Kolhapur, Maharashtra. The Mr. Avinash Tare explained about the facilities, methods of collecting raw material, the equipment's used for the extraction and their storage and different unit. He also explained about the maintenance of the equipment and ethics considered during manufacturing and about regularity guidelines.

Mr. Satish Gune (Plant Head) greeted us with warm welcome note. He has given introduction of S.G Phyto group with profile, vision and popular products along with new sites. He told the expectations from students during interviews, regarding basic knowledge of your area. The students visited the extraction, production, compression, quality assurance, packing and storage department. The visit was concluded by tour in-charge Dr. Pravin Karuna at 1:30 pm by offering bouquet to Mr. Satish Gune and Mr. Avinash Tare. Overall the visit helped students in understanding of the extraction processes, formulation as well as packing of products and also the job opportunities at S. G. PHYTO PHARMA PVT. LTD.

3) Industrial Visit to Warna Biotech & Tissue Culture Lab, Nave Pargaon, Kolhapur

The students have reached on 4:00 pm at Warna Biotech & Tissue Culture Lab, Nave Pargaon, Kolhapur. The Director of the Warna Biotech& Tissue Culture Lab, Mr. Chandrashekhar Khadd, greeted students with warm welcome note. He has given introduction of Warna Biotech and tissue culture lab group with profile, vision and popular products. The student visited to inoculation room, tissue culture lab, incubation room, washing area, nutrient medium preparation room.

Mr. Khadd told that, in Warna Biotech, several crops and their varieties ware multiplied and available for marketing such as banana varieties-Grand Naine, Deshi, Red banana, Velchi (Yalakki); Bamboo Varieties-Balcooa, Managa, Tulda; Teak Varieties-Burma teak; Sugarcane Varieties-CO-86032, COM-10001, CO-18121, Mango varieties-Keshar, Hapus, Ratna, Sindhu, Dasheri, Amrapali, Langda; Chiku varieties-Cricket ball, Kali patti; Guava varieties-Red diamond, VNR, Taiwan Pink, G-Vilas, L-49; Sitaphal varieties-Balanagari, Purandar selection, MNK-1; Pomegranate varieties- Bhagwa; Grape Rootstock; and Apple varieties-Harmon-99, Anna, Dorset Golden. The visit was concluded 6:00 pm with greetings to Mr. Chandrashekhar Khadd.

At the end of the day, the students noted their view about the industrial visit. They told that, they got exposure and knowledge of various research and job opportunities in Pharma companies around Kolhapur MIDC area. After visiting Warna Biotech & Janani Biotech students are able to know the operation of tissue culture labs and innovative tissue culture start-up programs.





Industrial Visit to Warna Biotech & Tissue Culture Lab, Nave Pargaon

Dr. S. D. Umdale **Departmental Coordinator** **DBT-Star College Scheme**	Dr. S. R. Sabale **Coordinator** **DBT-Star College Scheme**	Prof. Dr. (Mrs.) M. V. Kale **Vice-principal & Head** **Department of Botany**	Dr. S. A. Manjare **Principal** **Jaysingpur College Jaysingpur**

Anekant Education Society,

JAYSINGPUR COLLEGE JAYSINGPUR

REPORT ON

Wallpaper Activity

Organized by

Department of Botany,
Internal Quality Assurance Cell (IQAC)

31st August, 2024

Under the aegis of

DBT-STAR COLLEGE SCHEME

ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	Wallpaper Activity
Date:	31st August, 2024
Venue:	Department of Botany, Jaysingpur College
Financial Assistance:	DBT-STAR COLLEGE SCHEME
Co-ordinator:	Dr. S. D. Umdale
Organised for: College/class/ staff	B. Sc. III Students
No. of Participants	**19F+01M = 20**
Nature: (e.g. Academic, cultural, sports etc)	Academic Activity
Objectives of the Activity	To give exposure to students for their ability to express their views about botany
Chief Guest/s or Resource Person/s	Dr. S. A. Manjare Principal, Jaysingpur College Jaysingpur Prof. (Mrs). M. V. Kale Vice-Principal and Head, Department of Botany
Short Report (in English)	The department of Botany organized the **"Wallpaper Activity"** at Department of Botany, Jaysingpur College Jaysingpur**.** The 21 participants were prepared 20 posters of various areas of botanical science. During this activity students and visitors were got the knowledge of diverse area of Botany including recent advances and traditional botany. The program was conducted under the guidance and presence Prof. (Mrs). M. V. Kale, Head, Department of Botany, Jaysingpur College Jaysingpur.
Outcome/Remark	The students were enlightened with traditional botany and also recent advances in Botany.

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DEPARTMENT OF BOTANY

Wallpaper Activity Report

Date: 31.08.2024

The Department of Botany, Jaysingpur College Jaysingpur has organized a Wallpaper activity on 31st August, 2024. During this event, the all students of third year botany were actively participated in the wallpaper activity. The event was started at 11:00 am with welcome of our chief guest Dr. S. A. Manjare, Principal, Jaysingpur College Jaysingpur by Prof. Dr. (Mrs.) M. V. Kale, Vice-Principal and Head, Department of Botany. Dr. (Mrs.) V. R. Davande, Ms. S. B. Langare and Dr. S. D. Umdale from Department of Botany were present for wallpaper activity,

Prin. Dr. S. A. Manjare sir talk about the importance of the activity and sheered his views with students. Also, he motivated the students, in his presidential speech. Prin. Dr. S. A. Manjare sir congratulated for the successful organisation of the wallpaper activity. During event, Prof. (Mrs.) M. V. Kale discussed about the theme and purpose of the organization of the wallpaper activity.

During this event, a total twenty one participants made twenty different wallpapers on recent advances and traditional Botany. The teachers and students from various departments visited the wallpapers and acquired the knowledge of botany during discussions with participants. The event was anchored by Miss. Prerna Bhat, Student, B. Sc.-3 (Botany) and concluded the program with vote of thanks.

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DEPARTMENT OF BOTANY

Notice

Date: 26/08/2024

All students of B. Sc. III are hereby informed that the **"Wallpaper Activity"** of Subject **BOTANY** is scheduled on **Saturday, 31/08/2024**. All students are informed that they must be present for the activity. The interested students prepare wallpaper and confirm their participation.

Day: **Saturday**
Date: **31/08/2024**
Time: **11:00 am**
Venue: **Botany Department**

Head,
Department of Botany

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF BOTANY

Wallpaper Activity

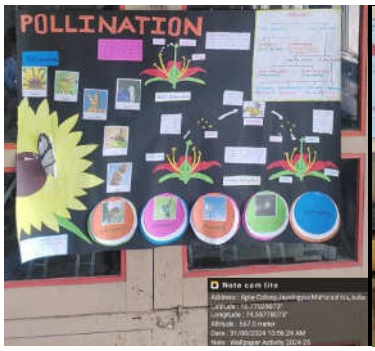
Wallpaper Topic

Date: 31/08/2024

Sr. No.	Name	Wallpaper Topic	Sign
1	Sneha R. Pawar	Seed germination	SPawar
2	Trupti S. Pawar	Plant physiology	TSPawar
3	Ashwini G. Mirajkar	Photosynthesis and Respiration	[illegible]
4	Ayesha S. Mullani	Health benifits of Millet	Ayesh
5	Shreya H. Kamble	Botanical Gardens	Kamble
6	Varsha R. Sambhushete	Pollination	VRS
7	Prerna V. Bhat	Botany Branches	[illegible]
8	Swapnali V. Mali	Genetic Engineering in golden rice	[illegible]
9	Taslim Y. Mujawar	Forensic Botany	T.Y.Mujawar
10	Samiksha S. Mali	Hydroponics	S.Mali
11	Tamanna S. Mujawar	Medicinal Plant	T.S.Mujawar
12	Shital P. Kavade	Mycology	[illegible]
13	Sadhana B. Kadam	Typical Flower	S.B.Kadam

Notice

List of Participants



Dr. S. D. Umdale
Departmental Coordinator
DBT-Star College Scheme

Dr. S. R. Sabale
Coordinator
DBT-Star College Scheme

Prof. Dr. (Mrs.) M. V. Kale
Vice-principal & Head
Department of Botany

Dr. S. A. Manjare
Principal
Jaysingpur College Jaysingpur

REPORT ON

SEMINAR COMPETION 2024-25

B. Sc. III

Organized by

DEPARTMENT OF BOTANY,
Internal Quality Assurance Cell (IQAC)

28th September, 2024

Under the aegis of

DBT-STAR COLLEGE SCHEME

ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	**Seminar Competition-2024-25**
Date:	28th September, 2024
Venue:	Department of Botany, Jaysingpur College
Financial Assistance:	DBT-STAR COLLEGE SCHEME
Co-ordinator:	Dr. Suraj D. Umdale
Organised for: College/class/ staff	B. Sc. III Students
No. of Participants	**20F+02M = 22**
Nature: (e.g. Academic, cultural, sports etc)	Academic Activity
Objectives of the Activity	• To enhance the presentation skills in students. • To boost their confidence, performance and productivity.
Short Report (in English)	The department of Botany has organized **"Seminar Competition"** for the B. Sc. III (BOTANY) students**.** In this activity, a total 22 student participants were prepared their presentations and delivered the seminars on the various topics of gene transfer technology. The program was conducted under the guidance of Prof. Dr. (Mrs.) M. V. Kale, Head, Botany Department Jaysingpur College, Jaysingpur.
Outcome/Remark	The students have enhanced their confidence about public speaking and also enhanced presentation skills. • Improved student understanding • Increased student engagement • Development of intellectual skills

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

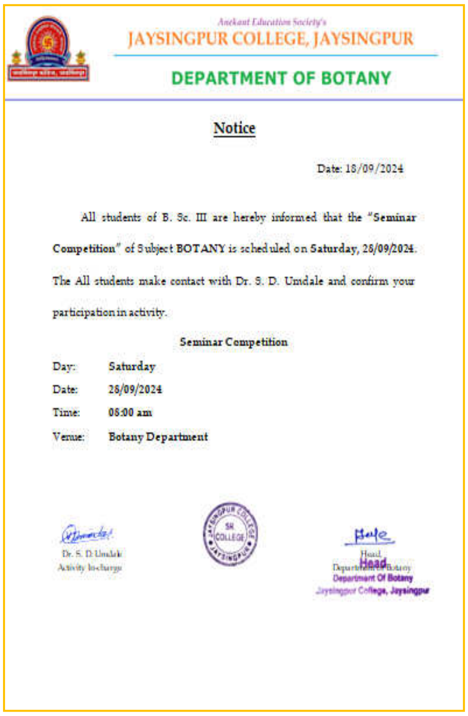
Department of Botany

Seminar Competition-2024-25

28st September, 2024

The department of Botany has organized "**Seminar Competition**" for the B.Sc. III Botany students on **Saturday, 28st September, 2024** at **8:00 am.** The students were notified using notice displayed on notice board and on whatsapp group. About 22 students were participated in the seminar competition.

The competition was started with inauguration and the welcome of participant's students by Dr. S. D. Umdale. He has given the short talk about the seminar competition in overall development of the students which include enhancement of presentation skills, confidence and student performance. He has suggested various methods and techniques of delivering seminars. After inaugural talk, he announced the seminar competition is open. Based on registration the participants, they delivered the seminars and discussed about various question asked by audiences.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JAYSINGPUR COLLEGE, JAYSINGPUR
DEPARTMENT OF BOTANY

Notice

Date: 18/09/2024

All students of B. Sc. III are hereby informed that the "Seminar Competition" of Subject BOTANY is scheduled on Saturday, 28/09/2024. The All students make contact with Dr. S. D. Umdale and confirm your participation in activity.

Seminar Competition

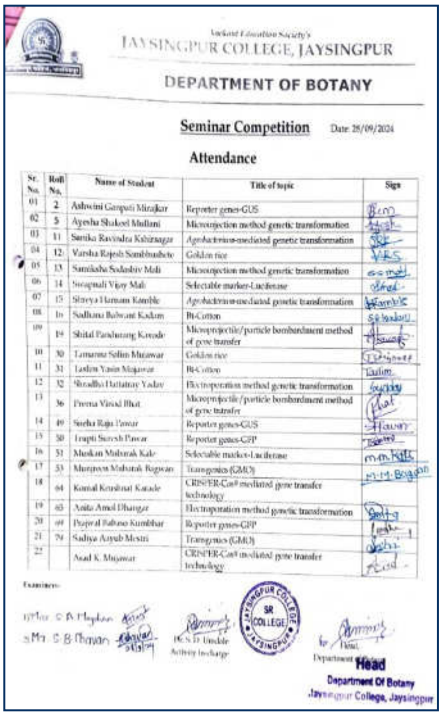
Day: Saturday
Date: 28/09/2024
Time: 08:00 am
Venue: Botany Department

Dr. S. D. Umdale
Activity Incharge

Head
Department of Botany
Jaysingpur College, Jaysingpur

Notice

Program Boucher


Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
DEPARTMENT OF BOTANY

Seminar Competition Date: 28/09/2024

Attendance

Sr. No.	Roll No.	Name of Student	Title of topic	Sign
01	2	Ashwini Ganpati Mirajkar	Reporter genes-GUS	
02	5	Ayesha Shakeel Mullani	Microinjection method genetic transformation	
03	11	Sanika Ravindra Kshirsagar	Agrobacterium-mediated genetic transformation	
04	12	Varsha Rajesh Sambhushete	Golden rice	
05	13	Samiksha Sadashiv Mali	Microinjection method genetic transformation	
06	14	Swapnali Vijay Mali	Selectable marker-Luciferase	
07	15	Shreya Hanuman Kamble	Agrobacterium-mediated genetic transformation	
08	16	Sadhana Balwant Kadam	Bt-Cotton	
09	19	Shital Pandurang Kurade	Microprojectile/particle bombardment method of gene transfer	
10	30	Tamanna Salim Mujawar	Golden rice	
11	31	Taslim Yasin Mujawar	Bt-Cotton	
12	32	Shradha Dattatray Yadav	Electroporation method genetic transformation	
13	36	Prema Vinod Bhat	Microprojectile/particle bombardment method of gene transfer	
14	49	Sneha Raju Pawar	Reporter genes-GUS	
15	50	Trupti Suresh Pawar	Reporter genes-GFP	
16	51	Muskan Mubarak Kale	Selectable marker-Luciferase	
17	53	Munjreen Mubarak Bagwan	Transgenics (GMO)	
18	64	Komal Krushnat Katade	CRISPER-Cas9 mediated gene transfer technology	
19	65	Anita Amol Dhangar	Electroporation method genetic transformation	
20	69	Prajwal Babaso Kumbhar	Reporter genes-GFP	
21	74	Sadiya Aayub Mestri	Transgenics (GMO)	
22		Asad K. Mujawar	CRISPER-Cas9 mediated gene transfer technology	

Examiners:

1) Mrs. S. A. Magdum
2) Mr. S. B. Chavan

Dr. S. D. Umdale
Activity Incharge

Head,
Department of Botany
Jaysingpur College, Jaysingpur

Attendance Sheet

The student choose the various topics of genetic engineering such as Reporter genes-GUS, Microinjection method genetic transformation, *Agrobacterium*-mediated genetic transformation, Golden rice, Microinjection method genetic transformation, Selectable marker-Luciferase, Bt-Cotton, Golden rice. After the completion of the seminars, Dr. S. D. Umdale has congratulated student participants for active involvement in seminar competition. At the end of activity the student participants gave a short feedback about the competition. The vote of thanks was given by Mr. S. B. Chavan and declared that seminar activity was over.

Glimpses of Seminar Competition (28.09.2024)

Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany

Seminar Competition

Date: 28/09/2024

RESULT

Sr. No.	Name of Student	Roll No.	Title of topic	Rank
01	Prerna Vinod Bhat	36	Micro projectile method of gene transfer.	Ist
02	Varsha R. Sambhashile	12	Golden rice	IInd
03	Shreya Hanman Kamble	15	Agrobacterium mediated gene transfer	IIIrd

Dr. S. D. Umdale
Activity In-charge

Head,
Department of Botany
Department Of Botany
Jaysingpur College, Jaysingpur

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|| Jain Minority College
|| Reaccredited 'A' grade by NAAC || DST-FIST [Level-1] Sponsored

DEPARTMENT OF BOTANY
Internal Quality Assurance Cell (IQAC)
Organizes
"SEMINAR COMPETITION"
Under the Aegis of
DBT-STAR COLLEGE SCHEME

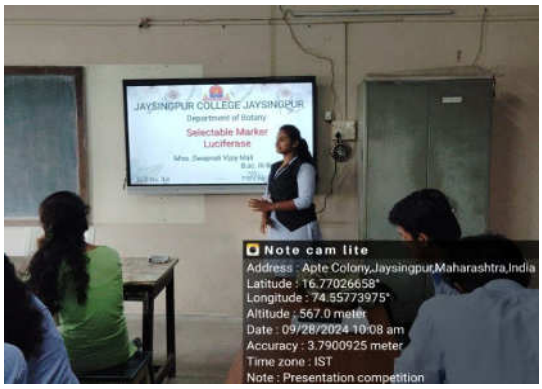
CERTIFICATE

This is to certify that, Mr. / Miss. _____ has presented seminar entitled _____ in the "SEMINAR COMPETITION" held on 28th September, 2024 organized by Department of Botany, Jaysingpur College Jaysingpur

Dr. S. D. Umdale
Program Coordinator
DBT-STAR COLLEGE SCHEME

Prof. (Mrs.) M. V. Kale
Vice-Principal & Head,
Department of Botany

Dr. S. A. Manjare
Principal,
Jaysingpur College Jaysingpur



Glimpses of Seminar Competition (28.09.2024)

Dr. S. D. Umdale
Departmental Coordinator
DBT-Star College Scheme

Dr. S. R. Sabale
Coordinator
DBT-Star College Scheme

Prof. Dr. (Mrs.) M. V. Kale
Vice-principal & Head
Department of Botany

Dr. S. A. Manjare
Principal
Jaysingpur College Jaysingpur

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Botany

Report of

Botanical Field Visit of B. Sc. I students

Gaganbawada, Kolhapur

(2024-25)

Activity Report

Year:	**2024-25**
Name of the Activity:	Field visit of B. Sc. I Students to Gaganbawada
Date:	05th October, 2023
Venue:	Department of Botany, Jaysingpur College
Financial Assistance	DBT-STAR COLLEGE SCHEME
Tour in-charge:	Mr. C. R. Chivate
Organised for: College/class/ staff	B. Sc. I Students
No. of Participants	50F (02 staff)+31M (04 staff)= 81 (06 staff)
Nature: (e.g. Academic, cultural, sports etc)	Academic Activity
Objectives of the Activity	The objective of study tour was to familiarize the students with the Algae, Bryophytes, Pteridophytes and floristic diversity of the Konkan area (Gaganbawada, Kolhapur) of Western Ghats of Maharashtra
Chief Guest/s or Resource Person/s	-
Short Report (in English)	As per the curriculum of Shivaji University, Kolhapur for B. Sc. I Botany subject. The department of Botany organised the Botanical Excursion to Gaganbawada, Kolhapur. A total 81 students and 06 faculty staff were participated in this study tour. The present Botanical study tour increased the knowledge of students about the nomenclature, Habit, Habitat, environment, and wealth of western Ghats of Maharashtra. This botanical excursion was fruitful for students.

FIELD VISIT REPORT

5th October 2024

The Department of Botany has organised One Day Botanical excursion tour at Gaganbavda, Kolhapur on Saturday, 05th October 2023 for B.Sc. I year students.

Excursions are arranged to give exposure to students. Field education is equally important as classroom teaching. It adds vigor in learning processes and relieves monotones of indoor education. Field study is an essential part of botany as plants are best studied in their natural habitat. These tours also help to build good repo amongst students and teachers. The major objective was to familiarize the students with the wild flora and ecology of the region. A group of 76 students were accompanied by teaching staff Dr. V. R. Dawande (Assistant Professor), Mr. C. R. Chivate (Assistant Professor), Ms. S. A. Magdum(Assistant Professor) and Mr. S. B. Chavan (Assistant Professor)and non teaching staff Shri B. M. Hatgine , shri A. A. Magdum of Botany department.

We all teachers and students assembled and started our journey from central bus station of Jaysingpur at 7.00 am. We reached Gaganbavda at 11.00am via. Kolhapur. The study of plants begins with the exploration of surrounding area nearby Gagangiri math, karul ghat to study plants in their wild habitat.

Students were made to identify the plants with their scientific name, family, identifying characters along with their importance. Some of the flowering twigs have been collected for the study of the families in syllabus. Now in the technical part of the trip, students have been explained all the characters of family with the help of flowering twig by Mr. C.R. Chivate. After the thorough visit, one hour lunch break at 1.00 pm was taken and the whole team had a lunch in gagangiri math along with the enjoyment of nature's beauty.

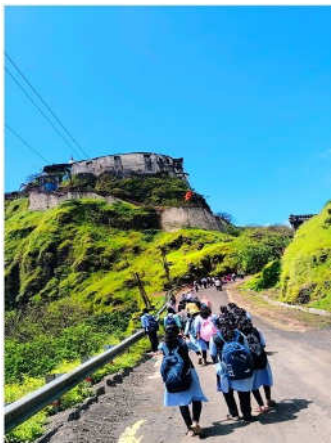
Gaganbavda is a town situated in the district of Kolhapur in Maharashtra, India. It is one of the taluka headquqrters in Kolhapur district. Gaganbavda, situated on the Sahyadri range or the Western Ghats also has the famous fort Gagangad near it. This place gets maximum rainfall during rainy season. It is on the threshold of the famous Karul Ghat and Bhuibawada Ghat. Gaganbavda offers you most scenic views of mighty mountain ranges of the Western Ghats. The misty mountains and lush green hills of Gaganbavda are treat to the eyes. The flora and fauna in the forests around Gaganbavda will mesmerise any nature lover.


Latitude: 16.544209
Longitude: 73.825122
Elevation: 616.04±12 m
Accuracy: 10.6 m
Time: 05-10-2024 11:26
Note: BSc I Study Tour- Gaganbavada
Powered by NoteCam


Latitude: 16.54419
Longitude: 73.825138
Elevation: 614.12±6 m
Accuracy: 6.8 m
Time: 05-10-2024 11:29
Note: BSc I Study Tour- Gaganbavada
Powered by NoteCam


Note cam lite
Address : Ringewadi,Maharashtra,India
Latitude : 16.5442034°
Longitude : 73.8251446°
Altitude : 543.0 meter
Date : 10/05/2024 11:28 am
Accuracy : 3.7900925 meter
Time zone : IST
Note : Presentation seminar competition


Note cam lite
Address : Ringewadi,Maharashtra,India
Latitude : 16.54350756°
Longitude : 73.82473075°
Altitude : 551.0 meter
Date : 10/05/2024 12:01 pm
Accuracy : 3.7900925 meter
Time zone : IST







Biodiversity forests around Gaganbavda are extremely rich in biodiversity. These forests are also home to many medicinal plants and herbs. We observed some plants which are listed below.

Sr. No.	**Names of Plants**	**Family**
1	*Sida acuta* Burm. f.	Malvaceae
2	*Gentiana* sp.L.	Gentianaceae
3	*Ipomea indica* (Burm.) Merr	Convolvulaceae
4	*Artocarpous heterophyllus* Lam.	Moraceae
5	*Commelina benghalensis* L.	Commelinaceae
6	*Moullava spicata* (Dalzell)Nicolson	Fabaceae
7	*Striga gesneriodes* (Willd.) Vatke	Orobanchaceae
8	*Hibiscus vitifolius* L.	Malvaceae
9	*Canscora diffusa* (Vahl) R. Br.	Gentianaccae
10	*Mimosa pudica* L.	Fabaceae
11	*Mangifera indica* L.	Anacardiaceae
12	*Cocus nucifera* L.	Arecaceae
13	*Cynotis tuberosa* (Roxb.) Schult. & Schult.f.	Commellinaceae
14	*Strobilanthes callosa* Nees.	Acanthaceae
15	*Areca catechu* L.	Arecaceae
16	*Macranga peltata* Roxb. Mueller	Euphorbiaceae
17	*Macranga peltata* Roxb. Mueller	Euphorbiaceae
18	*Senecio* sp. L.	Asteraceae
19	*Barleria crestata* L.	Acanthaceae

20	*Rhynchoglosum retusa* Blume	Gesneriaceae
21	*Callicarpa macrophyla* Vahl	Lamiaceae
22	*Elephantapus scaber* L.	Asteraceae
23	*Clerodendron* sp. L.	Verbenaceae
24	*Persicaria glabra* (Willd.) M.Gómez	Polygonaceae
25	*Colebrookea oppositifolia* Sm.	Lamiaceae
26	*Blepharies* sp Juss.	Acanthaceae
27	*Hyptis* sp.Jacq	Lamiaceae
28	*Acanthospermum* sp. Schrank.	Asteraceae
29	*Urena lobata* L.	Malvaceae
30	*Asystasia gangetica* (L.) T. Anderson	Acanthaceae

The students were got the knowledge of plants taxonomy with their habitat and habit. The study tour was very interesting, students participated were interacted in very well manner, discipline with teachers, guide. Students realised that viewing the flora in natural habitat enhances theoretical and practical knowledge. Therefore, the trip successfully inculcated in students the practicality of different theoretical concepts of Botany.

Dr. S. D. Umdale
Departmental Coordinator
DBT-Star College Scheme

Dr. S. R. Sabale
Coordinator
DBT-Star College Scheme

Prof. Dr. (Mrs.) M. V. Kale
Vice-principal & Head
Department of Botany

Dr. S. A. Manjare
Principal
Jaysingpur College Jaysingpur

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Botany

REPORT ON

One Day Workshop on Herbarium Technique

Organized by

Department of Botany,

Internal Quality Assurance Cell (IQAC)

8th October, 2024

Under the aegis of

DBT-STAR COLLEGE SCHEME

DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

ACTIVITY REPORT

Year:	**20224-25**
Name of the Activity:	**One Day Workshop on Herbarium Technique**
Date:	8th October, 2024
Venue:	Conference Hall, Jaysingpur College, Jaysingpur
Co-ordinator:	Dr. Suraj D. Umdale
Organised for: College/class/ staff	B.Sc. II Students
Financial Support	DBT-STAR COLLEGE SCHEME
No. of Participants	**58 (F)+ 26 (M)=84**
Nature: (e.g. Academic, cultural, sports etc)	**Academic Activity**
Objectives of the Activity	To provide the hands on experience for students in herbarium sheet preparartion.
Chief Guest/s or Resource Person/s	**Dr. Makrand M. Aitawade,** Assistant Professor & Head, Department of Botany, Prof. Dr. N. D. Patil Mahavidyalaya, Malkapur-Perid, Kolhapur-415 101. MS, INDIA.
Short Report (in English)	The department of Botany has organized one day Workshop on **"Herbarium Technique"** for the B. Sc. II students. In this activity, about 84 students were participated. During this workshop, students have learned the technique of preserving plant collection in the form of pressed and dried plant specimens mounted on a sheet of paper known as Herbarium. During the workshop, the students were given a demonstration on how to make a herbarium and were familiarized with its importance, and were taught the preservation techniques.
Outcome/Remark	Students have urged the knowledge of Collection, processing, preservation, herbarium preparation, and mounting of specimens on herbarium sheet.

One Day Workshop on Herbarium Technique

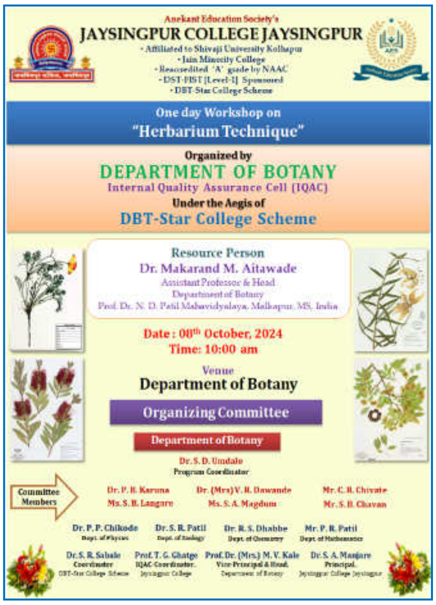
8th October, 2024

The department of Botany has organized a one day workshop on "**Herbarium Technique"** for the B.Sc. II Botany students as a part of their practical syllabus on 8th October, 2024 sponsored by DBT-STAR COLLEGE SCHEME. The students were notified using notice displayed on notice board and on whatsapp group. About 84 students and teachers were participated in the workshop.

The programme commenced with the arrival of Recourse person Dr. Makrand M. Aitawade accompanied by our Vice-Principal, Prof. Manisha V. Kale. The workshop was started with welcome and felicitation of resource person by Prin. Dr. S. A. Manjare. Dr. S. D. Umdale, Assistant Professor, Department of Botany, Jaysingpur College Jaysingpur has briefed about the aims and objectives of the workshop. The objective of the workshop was to gain hands on skills and experience that will enable students to develop and make use of their own herbaria. The brief introduction of resource person was given by Mr. Saurabh Chavan, Assistant Professor, Department of Botany.

After inauguration of workshop Dr. Makrand M. Aitawade explained and gave hands on training about the herbarium preparation techniques, requirements by giving some relevant examples. He has given powerpoint Presentation of introduction of various herbaria in Maharashtra, India and in world. He further stressed that herbarium preparation and maintenance is not a onetime process but a continuous process. Dr. Makrand M. Aitawade also told about the rules and regulations of Biodiversity Act-2002 & 2008 and the importance of maintaining herbaria in plant research institutions.

This workshop has motivated the students to get a genuine and practical interest in herbarium management required for maintaining local biodiversity record.



Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR

Ref. No. AES/JC/2024-25/e-mail

Date:- 04/10/2024

To,
Dr. Makarand M. Aitawade
Assistant Professor & Head,
Department of Botany,
Prin. Dr. N. D. Patil Mahavidyalaya,
Malkapur-Perid, Kolhapur-415 101,
Maharashtra, INDIA.

Subject: Invitation as resource person for "One day Workshop on Herbarium Technique"

Respected sir,

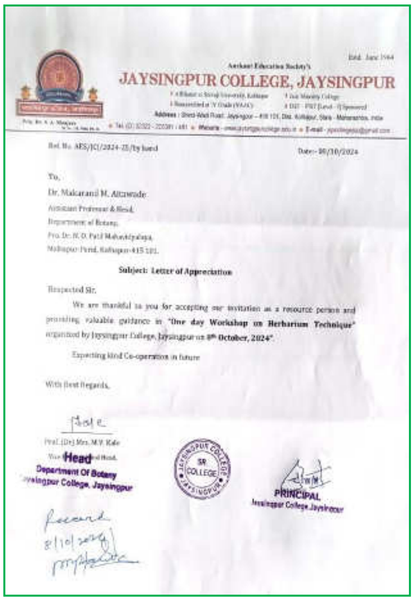
With reference to above mentioned subject, it gives us an immense pleasure to invite you to as resource person for "One day Workshop on Herbarium Technique" organized by Jaysingpur College, Jaysingpur on 8th October, 2024. As you are expert in plant identification and a good taxonomist, we appreciate your presence in the Workshop on Herbarium Technique.

Date of Program: 08th October, 2024

With Best Regards,

Prof. (Dr.) Mrs. M.V. Kale
Vice Principal and Head,
Head
Department Of Botany
Jaysingpur College, Jaysingpur

PRINCIPAL
Jaysingpur College, Jaysingpur



Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR

Ref. No. AES/JC/2024-25/by hand

Date:- 08/10/2024

To,
Dr. Makarand M. Aitawade
Assistant Professor & Head,
Department of Botany,
Prin. Dr. N. D. Patil Mahavidyalaya,
Malkapur-Perid, Kolhapur-415 101.

Subject: Letter of Appreciation

Respected Sir,

We are thankful to you for accepting our invitation as a resource person and providing valuable guidance in "One day Workshop on Herbarium Technique" organized by Jaysingpur College, Jaysingpur on 8th October, 2024".

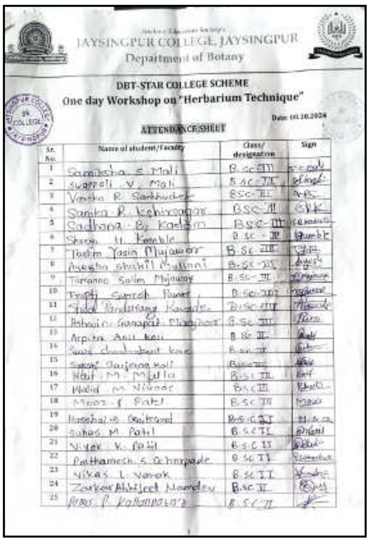
Expecting kind Co-operation in future

With Best Regards,

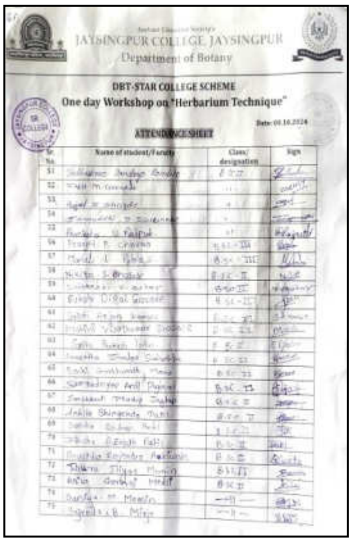
Prof. (Dr.) Mrs. M.V. Kale
Vice Principal and Head,
Head
Department Of Botany
Jaysingpur College, Jaysingpur

PRINCIPAL
Jaysingpur College Jaysingpur

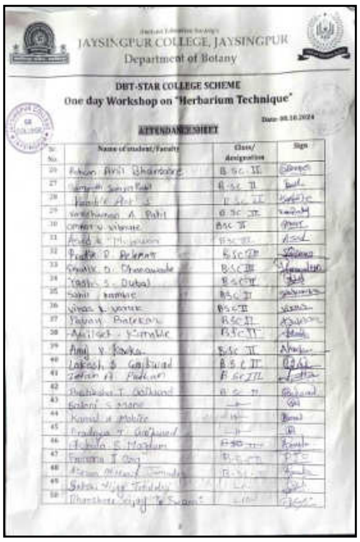
Program Brochure **Invitation Letter** **Appreciation Letter**



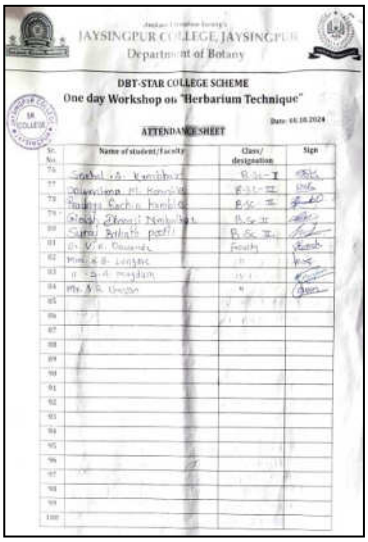
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany
DBT-STAR COLLEGE SCHEME
One day Workshop on "Herbarium Technique"
ATTENDANCE SHEET
Date: 08.10.2024



JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany
DBT-STAR COLLEGE SCHEME
One day Workshop on "Herbarium Technique"
ATTENDANCE SHEET
Date: 08.10.2024



JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany
DBT-STAR COLLEGE SCHEME
One day Workshop on "Herbarium Technique"
ATTENDANCE SHEET
Date: 08.10.2024



JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany
DBT-STAR COLLEGE SCHEME
One day Workshop on "Herbarium Technique"
ATTENDANCE SHEET
Date: 08.10.2024

Attendance Sheets

Glimpses of One Day Workshop on Herbarium Technique

After the hands on training of preparation of Herbarium Sheets, Dr. Suraj Umdale has congratulated student participants for successful completion of Workshop. He also thanked the DBT (DBT-Star College Scheme), Govt. of India for financial assistance. At the end of activity the student participants gave a short feedback about the Workshop.

The workshop concluded with a Vote of Thanks presented by Dr. Varsha Dawande, where she expressed his gratitude to the Dr. Makrand M. Aitawade, Prin. Dr. S. A. Manjare, Prof. Manisha V. Kale Vice-Principal, Head, Dept. of Botany, Committee members and especially student for wonderful and significant initiative.

Dr. S. D. Umdale **Departmental Coordinator** **DBT-Star College Scheme**	Dr. S. R. Sabale **Coordinator** **DBT-Star College Scheme**	Prof. Dr. (Mrs.) M. V. Kale **Vice-principal & Head** **Department of Botany**	Dr. S. A. Manjare **Principal** **Jaysingpur College Jaysingpur**

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Botany

REPORT ON
Botanical Excursion of B. Sc. 3
to
Kaas Plateau, Satara; ICAR-NRC for Grapes, Pune; Bhimashanker Wildlife Sanctuary, Akole-Seed Mother Rahibai Soma Popere

(2024-25)




Activity Report

Year:	**2024-25**
Name of the Activity:	Botanical Excursion of B. Sc. 3 to Kaas Plateau, Satara; ICAR-NRC for Grapes, Pune; Bhimashanker Wildlife Century, Akole-Seed Mother Rahibai Soma Popere
Date:	12th to 14th December, 2024
Venue:	-
Financial Assistance	DBT-STAR COLLEGE SCHEME
Tour in-charge:	Dr. P. B. Karuna
Organised for: College/class/ staff	B. Sc. 3 Students
No. of Participants	19F (01 staff)+01M (03 staff)= 20 (04 staff)
Nature: (e.g. Academic, cultural, sports etc)	Academic Activity
Objectives of the Activity	The objective of botanical excursion was to give exposure to biodiversity area, to gain hands-on exposure to inculcate research aptitude and enhancing their understanding beyond classroom learning
Chief Guest/s or Resource Person/s	-
Short Report (in English)	As per the curriculum of Shivaji University, Kolhapur for B. Sc. 3 Botany subject. The department of Botany organised the Botanical Excursion to Gaganbawada, Kolhapur. A total 20 students and 04 faculty staff were participated in this study tour. The students have gained the knowledge of rare flowering plants of Kas Pathar, Satara. Also, received Information about NRC for Grapes and Studied Biodiversity of Bhimashankar Wild life Sanctuary. The students immersed themselves in the world of native seeds with Padma Shree Awardee, Seed mother Rahibai Popre at Kombhalane, AKole.

BOTANICAL EXCURSION REPORT

15th December, 2024

The Department of Botany has organised One Day Botanical excursion tour Botanical Excursion of B. Sc. 3 to Kaas Plateau, Satara; ICAR-NRC for Grapes, Pune; Bhimashanker Wildlife Century, Akole-Seed Mother Rahibai Soma Popere on 12th to 14th December, 2024. Excursions are arranged to give exposure to students. Field education is equally important as classroom teaching. It adds vigor in learning processes and relieves monotones of indoor education. Field study is an essential part of botany as plants are best studied in their natural habitat. These tours also help to build good repo amongst students and teachers. The major objective was to familiarize the students with the wild flora and ecology of the region.

A group of 20 students were accompanied by teaching staff Dr. Pravin B. Karuna (Assistant Professor, Tour in-charge), Mr. C. R. Chivate (Assistant Professor), and non teaching staff Shri B. M. Hatgine, of Botany department.

We all teachers and students assembled and started our journey from central bus station of Jaysingpur at 4.00 am. We reached kaas pathar at 11.00am via. Satara. The study of plants begins with the exploration of surrounding area to study plants in their wild habitat. Students were made to identify the plants with their scientific name, family, identifying characters along with their importance. Some of the flowering twigs have been collected for the study of the families in syllabus. Now in the technical part of the trip, students have been explained all the characters of family with the help of flowering twig by Mr. C.R. Chivate.

1) VISIT TO KAAS PLATEAU, SATARA

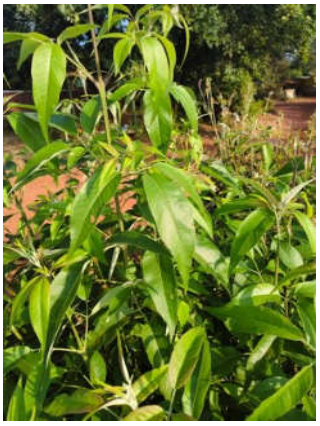
The Kas Pathar is lateritic plateau located in the Western Ghats of Sahyadri range, and the name Kaas originates from Kaasa tree (*Elaeocarpus glandulosus*). Recently, the Kass plateau has been declared as Biodiversity World Heritage Site by The United Nations Educational Scientific and Cultural Organization (UNESCO). The plants growing on Kas plateau are typically of herbaceous nature of like grasses. The small shrubs and trees are located at the periphery of the plateau at Kaas plateau. On the first day, 12th December 2024, the students were reached at 8 am and started exploring the plants with their scientific name, family, identifying characters along with their importance. Now in the technical part of the trip, students have been explained all the

characters of family with the help of flowering twig by Mr. C.R. Chivate and Dr. P. B. Karuna. After the thorough visit, one hour lunch break at 1.00 pm and proceed to the ICAR-NRC for Grapes, Pune.












2) ICAR-NRC FOR GRAPES, PUNE

On 12th December 2024 atudents visited the ICAR-National Research Centre for Grapes in Pune. Dr. Prashant Sawant Scientist at Fruit Science division welcomed all the students and staff. He gave information with respective to importance of grape farming and agriculture in welfare of human beings. All students were sensitized by Mr. Rohit Palghadmal and Mr. Hemant Saste regarding role and activities, of ICAR- NRC for Grapes in research. The studens visited vine yard field and understood the information about the grapes, its type, cultivation practices followed by visiting vegetable crops cafeteria. Some activities like identification of various fruit crops and vegetables were carried out.

During visit, students interacted with Dr. Kaushik Banerjee, Director, ICAR- NRCG and visited a raisin making unit, at which they were informed about method of grape drying, quality raisin production and health benefits of raisins. Dr. Kaushik Banerjee, guided students on beneficial effect of grapes as well as health benefits of seasonal fruit consumption. The students were understood the research activities on grape improvement, and potential inspiration to pursue a career in horticulture or related fields; essentially providing a comprehensive understanding of the grape industry, from cultivation to post-harvest management, with a focus on research-based practices at ICAR-NRC for Grapes.

3) BHIMASHAKAR WILDLIFE SANCTUARY

Day 2nd: 15th December, 2024: The students visited Bhimashankar wildlife sanctury. The students were explored the lower cryptogamic plants and fungi to higher plants growing in natural conditions at Bhimashankar wildlife sanctury. The After visiting the famous Jyotirlinga temple at Bhimashaknar, the students started the trekking towards Nagphani hills. A detailed survey of the vegetation was done on the way. Various angiosperms like *Pogostemon deccanensis*, *Rubia cordifolia*, *Pimpinella tomentosa*, *Eragrostis cilianensis*, *Commicarpus chinensis*, *Senecio bombaynsis*, *Asparagus*, Bryophytes like *Marchantia*, Mosses etc., a variety of Pteridophytes and Fungi were observed.

The habit and external characters of the various plants were studied and photographs were taken. The occurrence of *Strobilanthus callosa* in flowering condition was a unique sight for everyone as the species flowers after every seven years only. A variety of flora and fauna in the Bhimashaknar sanctuary area could be observed. Later everyone sat together and had lunch at 2:00 pm. Very active and interesting discussions were carried out by the teachers with the students which threw light into the history of Bhimashaknar wild life sanctuary and the significance of various biodiversity and religious spots in the area.

4) AKOLE-SEED MOTHER PADMA SHRI- RAHIBAI SOMA POPERE

Day 3rd: 16th December, 2024: The main focus of this tour is to explore the seminal work of Seed mother Padmashri Rahibai Popre, a woman farmer with no formal education. Integrating the concept of social innovation, she is a social entrepreneur whose mammoth work has transformed the farming practices of not only the area she lives, a village called Kombhalne, Tal-Akole, Dist. Ahmednagar but has made the entire nation to think about the importance of preservation and conservation of native, indigenous seed varieties, organic farming, millets and wild vegetables.

Padmashri Rahibai Popre's apparently simple yet effective methods of farming that she developed through hands on experience and deep sense of responsibility for society and most importantly, the soil and the earth. Popere is an active member of **Kalsubai Parisar Biyanee Savardhan Samiti, Akole,** and has established a community seed bank in her small house for conservation and revival of crop diversity and wild food resources. At present, about 122 landraces of 32 crops are under conservation. She has the zeal to learn new agronomic techniques. She developed expertise in the SRI method of paddy cultivation, improved cultivation practices for tomato and hyacinth bean, introduced participatory seed selection, organic farming techniques (vermicomposting, vermiwash, natural pest repellents), nursery establishment and trained about 3500 farmers across Ahmednagar district.

The students were got the knowledge of native plant diversity, indigenous crop species and its cultivation, conservation and utilization. The students were interacted with her and also got inspired from her social work. After discussion with her, she walk around her farm and showed how crop germplasm is cultivated in farm. The students visited the in-situ conservation centre, hyacinth bean diversity centre, kitchen garden, etc. Her methods of preserving, conserving and planting indigenous seeds have greatly contributed the reservoir of Indian Knowledge System, at the same time making it practicable and important for overall growth of the nation.

On behalf of Department of Botany, Jaysingpur College Jaysingpur, Dr. Pravin B. Karuna and student representative, Miss. Prerna Bhat, gave lots of thanks to Rahibai Popre for insightful guidence about the seed bank. The study tour was very interesting, students participated were interacted in very well manner, discipline with teachers, guide. Students realised that viewing the flora in natural habitat enhances theoretical and practical knowledge. Therefore, the trip successfully inculcated in students the practicality of different theoretical concepts of Botany.


DEPARTMENT OF BIOTECHNOLOGY
Anekant Education Society's
JAYSINGPUR COLLEGE JAYSINGPUR
Department of Botany
Under aegis of

Dr. S. D. Umdale
Departmental Coordinator
DBT-Star College Scheme

Dr. S. R. Sabale
Coordinator
DBT-Star College Scheme

Prof. Dr. (Mrs.) M. V. Kale
Vice-principal & Head
Department of Botany

Dr. S. A. Manjare
Principal
Jaysingpur College Jaysingpur

Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany
Under the aegis of
DBT STAR COLLEGE SCHEME

REPORT ON

Two days workshop on "NET/SET/GATE Guidance"

Organized by

DEPARTMENT OF BOTANY

Internal Quality Assurance Cell (IQAC)

On

30th and 31st December, 2024

Under the aegis of

DBT-STAR COLLEGE SCHEME

DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	**Two Day Workshop on NET/SET/GATE Guidance**
Date:	30th – 31st December, 2024
Venue:	Department of Botany, Jaysingpur College, Jaysingpur
Co-ordinator:	Dr. Suraj D. Umdale
Organised for: College/class/ staff	B.Sc. and M. Sc. Students
Financial Support	DBT-STAR COLLEGE SCHEME
No. of Participants	**29 (F)+ 5 (M)=34**
Nature: (e.g. Academic, cultural, sports etc)	**Extracurricular Activity**
Objectives of the Activity	The primary objective this workshop is to equip aspiring candidates with the necessary knowledge, strategies, and skills to successfully prepare for and clear the NET/SET/GATE exams
Chief Guest/s or Resource Person/s	**1) Mr. Mangesh P. Gavit,** Asst. Prof. (Botany) Dr. Patangrao Kadam Mahavidyalaya, Sangli **2) Mr. Sachin E. Chavan,** Research Scholer, Shivaji University Kolhapur **3) Miss. Shweta A. Magdum**, Asst. Prof. (Botany) Jaysingpur College Jaysingpur **4) Mr. Chetan R. Chivate**, Asst. Prof. (Botany) Jaysingpur College Jaysingpur **5) Mr. Saurabh B. Chavan**, Asst. Prof. (Botany) Jaysingpur College Jaysingpur
Short Report (in English)	The department of Botany has organized two day Workshop on **"NET/SET/GATE Guidance"** for the B.Sc. And M.Sc. students**.** In this workshop, about 34 students from Jaysingpur college Jaysingpur and Dattajirao Kadam Arts, Science, and Commerce College, Ichalkaranji were participated. During this workshop, five resource personas were delivered talk on the NET/SET/GATE examination.
Outcome/Remark	• The students participants gain detailed insights into the structure of the NET/SET/GATE exams. • The students have received subject-specific knowledge • Students also learned the effective study strategies to qualify the exams • The students have got positive boost of self-belief and motivation for the exam

Two Day Workshop on NET/SET/GATE Guidance

30th – 31st December, 2024

The department of Botany has organized a two day workshop on "**NET/SET/GATE Guidance"** for the B.Sc. and M. Sc Botany students on 30th – 31st December, 2024 sponsored by DBT-STAR COLLEGE SCHEME. The students were notified using notice displayed on notice board and on whatsapp group. In this workshop, about 34 students from Jaysingpur College Jaysingpur and Dattajirao Kadam Arts, Science, and Commerce College, Ichalkaranji were participated. During this workshop, five resource persons were delivered talk on the NET/SET/GATE examination.

The programme commenced with the arrival of resource person Mr. Mangesh Gavit. The workshop was started with welcome and felicitation of resource person by Prof. Manisha V. Kale, Head Department of Botany and Vice-Principal, Jaysingpur College Jaysingpur. The workshop was inaugurated by offering water to the plant, which was done in the auspicious hands of the guest, Mr. Mangesh Gavit. Dr. Suraj D. Umdale, Assistant Professor, Department of Botany, has briefed about the aims and objectives of the workshop. The objective of the workshop was focus on providing comprehensive preparation for the NET/SET/GATE exams, aiming to equip participants with the necessary knowledge, skills, and strategies to successfully clear the exams and qualify for lectureship positions in universities and colleges, often including developing subject matter expertise, practice with exam format, time management techniques, and addressing common challenges faced by aspiring candidates. The brief introduction of resource person was given by Dr. S. D. Umdale. After inauguration of workshop the session of day first was started.

Sr. No.	Name of Institute	No. of Participants
1	Department of Botany, Jaysingpur College Jaysingpur	24
2	Department of Zoology, Jaysingpur College Jaysingpur	04
3	Dattajirao Kadam Arts, Science and Commerce College College, Ichalkaranji, Maharashtra	06

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Ref. No. AES/JCJ/2024-25/by hand

Date:- 30/12/2024

To,
Mr. Mangesh P. Gavit
Assistant Professor,
Department of Botany,
Dr. Patangrao Kadam Mahavidyalaya,
Sangli-Ashta Road, Sangliwadi, Sangli-416 416
Maharashtra, INDIA.

Subject: Letter of Appreciation

Respected Sir,

We are thankful to you for accepting our invitation as a resource person and providing valuable guidance in **"Two days workshop on NET/SET/GATE guidance"** organized by Department of Botany, Jaysingpur College Jaysingpur on **30th to 31st December, 2024**".

Expecting kind Co-operation in future

With Best Regards,

Prof. (Dr.) Mrs. M.V. Kale
Head
Department Of Botany
Jaysingpur College, Jaysingpur

Prin. Dr. S. A. Manjare
PRINCIPAL
Jaysingpur College, Jaysingpur

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Ref. No. AES/JCJ/2024-25/by hand

Date:- 31/12/2024

To,
Mr. Sachin Chavan
Research Scholar,
Department of Botany,
Shivaji University, Kolhapur-416 416
Maharashtra, INDIA.

Subject: Letter of Appreciation

Respected Sir,

We are thankful to you for accepting our invitation as a resource person and providing valuable guidance in **"Two days workshop on NET/SET/GATE guidance"** organized by Department of Botany, Jaysingpur College Jaysingpur on **30th to 31st December, 2024"**.

Expecting kind Co-operation in future

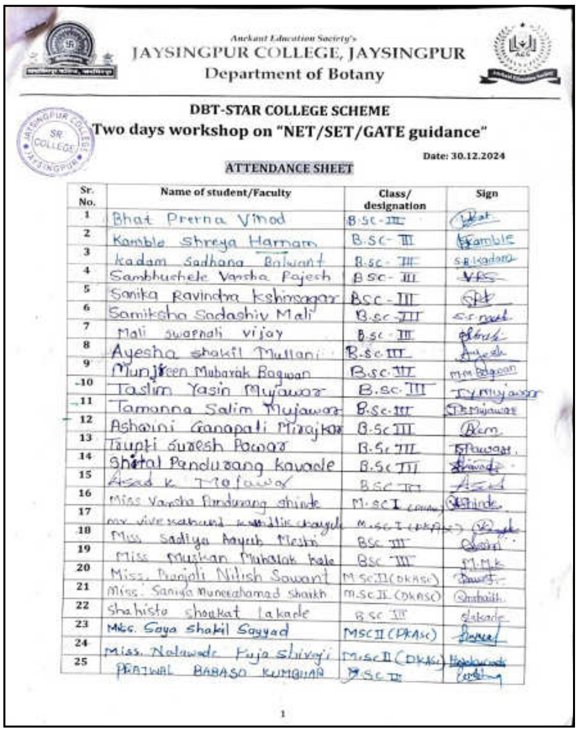
With Best Regards,

Prof. (Dr.) Mrs. M.V. Kale
Head
Department Of Botany
Jaysingpur College, Jaysingpur

Prin. Dr. S. A. Manjare
PRINCIPAL
Jaysingpur College, Jaysingpur

Program Brochure

Appreciation Letters



Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany

DBT-STAR COLLEGE SCHEME

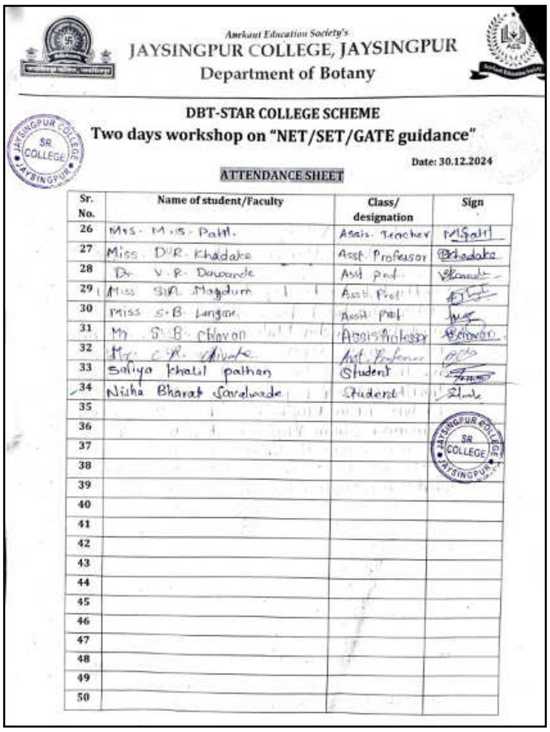
Two days workshop on "NET/SET/GATE guidance"

Date: 30.12.2024

ATTENDANCE SHEET

Sr. No.	Name of student/Faculty	Class/ designation	Sign
1	Bhat Prerna Vinod	B.Sc-III	[illegible]
2	Kamble Shreya Harnam	B.Sc-III	Kamble
3	Kadam Sadhana Balwant	B.Sc-III	S.B.Kadam
4	Sambhushete Varsha Rajesh	B.Sc-III	VRS
5	Sanika Ravindra Kshirsagar	B.Sc-III	[illegible]
6	Samiksha Sadashiv Mali	B.Sc-III	[illegible]
7	Mali Swapnali Vijay	B.Sc-III	[illegible]
8	Ayesha Shakil Mullani	B.Sc-III	[illegible]
9	Munjreen Mubarak Bagwan	B.Sc-III	M.M.Bagwan
10	Taslim Yasin Mujawar	B.Sc-III	T.Y.Mujawar
11	Tamanna Salim Mujawar	B.Sc-III	T.S.Mujawar
12	Ashwini Ganapati Mirajkar	B.Sc-III	[illegible]
13	Trupti Suresh Pawar	B.Sc-III	T.Pawar
14	Shital Pandurang Kavade	B.Sc-III	[illegible]
15	Asad K. Mulla [illegible]	B.Sc-III	[illegible]
16	Miss Varsha Pandurang Shinde	M.Sc-I [illegible]	Shinde
17	Mr. [illegible]	M.Sc-I (DKASC)	[illegible]
18	Miss Sadiya Ayub Mestri	B.Sc-III	[illegible]
19	Miss Muskan Mubarak Kale	B.Sc-III	M.M.K
20	Miss. Pranjali Nilesh Sawant	M.Sc-II (DKASC)	Sawant
21	Miss Saniya Muneerahamad Shaikh	M.Sc-II (DKASC)	[illegible]
22	Shahista Shoukat Lakade	B.Sc-III	Lakade
23	Miss. Saya Shakil Sayyad	M.Sc-II (DKASC)	[illegible]
24	Miss. Nalawade Puja Shivaji	M.Sc-II (DKASC)	Nalawade
25	PRAJWAL BABASO KUMBHAR	B.Sc-III	[illegible]

1



Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany

DBT-STAR COLLEGE SCHEME

Two days workshop on "NET/SET/GATE guidance"

Date: 30.12.2024

ATTENDANCE SHEET

Sr. No.	Name of student/Faculty	Class/ designation	Sign
26	Mrs. M. S. Patil.	Assis. Teacher	M.S.Patil
27	Miss D. R. Khadake	Asst. Professor	Khadake
28	Dr. V. R. Dawande	Asst. Prof.	[illegible]
29	Miss S. A. Magdum	Asst. Prof.	[illegible]
30	Miss S. B. Langare	Asst. Prof.	[illegible]
31	Mr. S. B. Chavan	Assis Professor	Chavan
32	Mr. C. R. Chivate	Asst. Professor	[illegible]
33	Saliya Khalil Pathan	Student	[illegible]
34	Nisha Bharat Savalwade	Student	[illegible]
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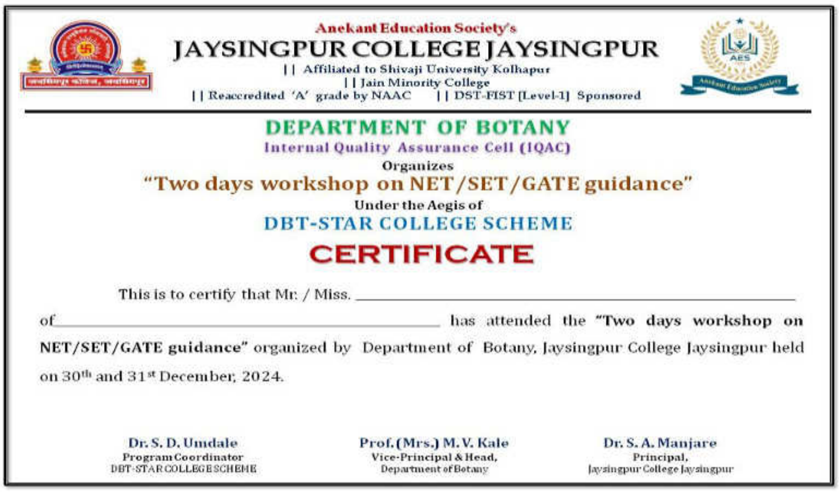
Attendance Sheets



Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

|| Affiliated to Shivaji University Kolhapur
|| Jain Minority College
|| Reaccredited 'A' grade by NAAC || DST-FIST [Level-1] Sponsored

DEPARTMENT OF BOTANY

Internal Quality Assurance Cell (IQAC)

Organizes

"Two days workshop on NET/SET/GATE guidance"

Under the Aegis of

DBT-STAR COLLEGE SCHEME

CERTIFICATE

This is to certify that Mr. / Miss. ____________________

of ____________________ has attended the "Two days workshop on NET/SET/GATE guidance" organized by Department of Botany, Jaysingpur College Jaysingpur held on 30th and 31st December, 2024.

Dr. S. D. Umdale
Program Coordinator
DBT-STAR COLLEGE SCHEME

Prof. (Mrs.) M. V. Kale
Vice-Principal & Head,
Department of Botany

Dr. S. A. Manjare
Principal,
Jaysingpur College Jaysingpur

Day-1: 30th December, 2024

SESSION-1: Mr. Mangesh P. Gavit

The resource person Mr. Mangesh P. Gavit started his discussion with his motivational real story. He told that, students should start preparation of these exams during their undergraduate programs. He has given PowerPoint Presentation of NET/SET/GATE exam preparation. In his session, he discussed the various ways of preparing for the NET/SET/GATE exams. At the end of his lecture he told that, the three pillars of his the success was Great desire, Consistency and Self-confidence. After his talk, students asked some queries regarding the NET/SET examinations.

SESSION-2: Miss. Shweta A. Magdum

The second resource person, Miss. Shweta Magdum gave talk on the Preparation NET exam. In her presentation, she gave idea about the websites to be visited (Official website of CSIR-UGC), Fee structure, Procedure for filling up the exam form, and the topics under Paper I and Paper II. She also shared the various tips and tricks to crack the NET examination in first attempt.

SESSION-3: Mr. Chetan R. Chivate

The third resource person, Mr. Chetan R. Chivate talks on the preparation SET exam. He gave introduction of Maharashtra SET examination, syllabus and eligibility criteria to appear to UG & PG students. He started with a detailed PowerPoint presentation. In PPT he explained Students what are the primary requirements to start preparing for such examination to UG & PG students. He also gave insights and scope of such examination.

After the third session, the program coordinator, Dr. Suraj Umdale gave vote of thanks and declared the all sessions of day one was over.

Day-2: 31st December, 2024

The second day of the workshop was started with arrival of resource persons Mr. Sachin Chavan and Mr. Saurabh Chavan. The workshop was started with welcome and felicitation of resource persons by Prof. Manisha V. Kale. The program coordinator Dr. Suraj D. Umdale, briefed about the aims and objectives of the workshop and also gave brief introduction of Mr. Sachin Chavan, a resource person of the first session.

SESSION-1: Mr. Sachin E. Chavan

The resource person, Mr. Sachin E. Chavan has qualified all NET, SET and GATE exam. He has talk about the structure of these exams and how to prepare to qualify the exam. He gave a clear picture of approaching and classifying the questions and guidance for

preparing such questions unit-wise pertaining to the subjects in life science. He also told that, the specific chapters which need more concentration along with some examples of questions which are frequently asked in NET exam. Also, he gave an idea about the eligibility criteria and how to apply for the exams. He gave few suggestions about the text books and online web-links to be referred for preparation of these exams.

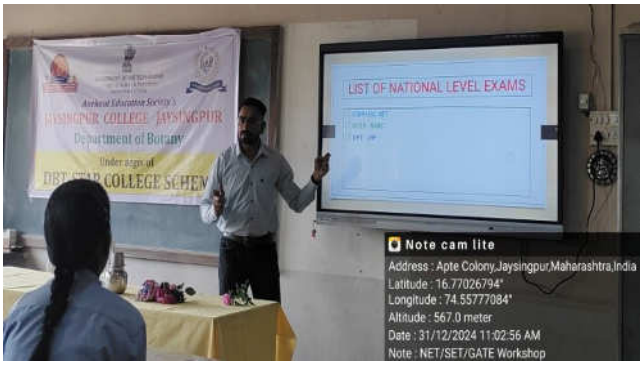
SESSION-2: Mr. Saurabh B. Chavan

The resource person of the second session, Mr. Saurabh Chavan talks on the preparation GATE examination. He has given powerpoint presentation of introduction and preparation of the GATE examination. He discussed about the syllabus, eligibility criteria and nature of the question papers. He also told that, the specific chapters which need more concentration along with some examples of questions which are frequently asked in GATE exam.

VALEDICTORY FUNCTION:

For the valedictory function, Mr. Sachin E. Chavan was present as a chief guest. During valedictory function, the program co-coordinator, Dr. Suraj Umdale has congratulated student participants for successful completion of Workshop. He also thanked the DBT (DBT-Star College Scheme), Govt. of India for financial assistance. At the end of workshop the student participants gave a short feedback about the Workshop. The workshop certificates of every participant were distributed during the valedictory function. The workshop was concluded with a vote of thanks presented by Dr. Suraj Umdale, where he expressed his gratitude towards the all resource persons, Honourable, Prin. Dr. S. A. Manjare, Prof. Manisha V. Kale Vice-Principal, Head, Dept. of Botany, Committee members and especially student participants for the successful completion of the workshop.

Glimpses of Two Day Workshop on NET/SET/GATE Guidance: Day-1 (30.12.2024)



Glimpses of Two Day Workshop on NET/SET/GATE Guidance: Day-2 (31.12.2024)

Dr. S. D. Umdale **Departmental Coordinator** **DBT-Star College Scheme**	Dr. S. R. Sabale **Coordinator** **DBT-Star College Scheme**	Prof. Dr. (Mrs.) M. V. Kale **Vice-principal & Head** **Department of Botany**	Dr. S. A. Manjare **Principal** **Jaysingpur College Jaysingpur**

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Botany

REPORT OF

A Lecture On

"Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work"

Organized Under the aegis of

DBT-STAR COLLEGE SCHEME

ON

08th January, 2025

DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	**A Lecture On** **Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work**
Date:	08th January, 2025
Venue:	Conference Hall, Jaysingpur College, Jaysingpur
Program Co-ordinator:	Dr. Suraj D. Umdale
Organised for: College/class/ staff	All Students
Financial Support	DBT-STAR COLLEGE SCHEME
No. of Participants	**89 (F)+ 11 (M)=100**
Nature: (e.g. Academic, cultural, sports etc)	**Extracurricular Activity**
Chief Guest/s or Resource Person/s	**Dr. Rajesh Mirge,** Professor, Shri Shivaji Mahavidyalaya, Amravati, MS, INDIA.
Gracious presence	**Dr. Kiran A. Khandare,** Principal, Dr. H. N. Sinha Mahavidyalaya Patur Akola, MS, INDIA.
Objectives of the Activity	1) To introduce the students life and works of Dr. Panjabrao alias Bhausaheb Deshmukh. 2) To explicate the relevance of ideas of Dr. Panjabrao Deshmukh to the present social, political, economic, religious condition of our country. 3) To motivate students to embrace idealism of Dr. Panjabrao alias Bhausaheb Deshmukh

A Lecture on "Dr. Panjabrao alias Bhausaheb Deshmukh, Agricultural and Educational Work"

8th January, 2025

On the occasion of Birth Anniversary of Dr. Panjabrao Deshmukh a lecture on **"Dr. Panjabrao alias Bhausaheb Deshmukh, Agricultural and Educational Work"** was organized by Jaysingpur College Jaysingpur and in Association with Shri Shivaji Education Institute, Amravati Dr. H. N. Sinha College of Arts and Commerce, Patur on 8th January, 2024 sponsored by DBT-Star college scheme. The students were notified using notice displayed on notice board and on whatsapp group. About 100 students and teachers were present for the lecture. The programme commenced with the arrival of Recourse person Dr. Rajesh Mirge and Dr. Kiran A. Khandare, Principal, Dr. H. N. Sinha Mahavidyalaya Patur, accompanied by our Principal, Hon'ble Dr. S. A. Manjare, Vice-Principal, Prof. Manisha V. Kale. The guest lecture was started with welcome and felicitation of resource person by Prin. Dr. S. A. Manjare, Jaysingpur College Jaysingpur has briefed about the program. The brief introduction of resource person was given by Dr. S.D. Umdale, I/C Coordinator, DBT-STAR College Scheme. The objective of the lecture is to introduce the students with life and works of Dr. Panjabrao alias Bhausaheb Deshmukh. Also, to explicate the relevance of ideas of Dr. Panjabrao Deshmukh to the present social, political, economic, religious condition of our country.

The guest speaker Dr. Rajesh Mirge very excellently explained the life and work of Dr. Panjabrao alias Bhausaheb Deshmukh and its importance in the present context. Dr. Panjabrao Deshmukh founded educational institutions for masses. The speaker reminded the audience the role of Dr. Panjabaro Deshmukh in Drafting Committee of the constitution. His revolt against casteism was also the focus of the speaker. He reminded the youths to identify their role in nation building.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

In Association with

Shri Shivaji Education Institute, Amravati

Dr. H. N. Sinha College of Arts and Commerce, Patur

On the Occasion of

Dr. Panjabrao Deshmukh

Centenary Silver Jubilee Birth Anniversary

Organizes

A Lecture On

Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work

Under the Aegis of

DBT-STAR COLLEGE SCHEME

Wednesday, 8th January, 2025

RESOURCE PERSON

Dr. Rajesh Mirge

Shri Shivaji Mahavidyalaya, Amravati

Venue

Conference Hall

Time

11:00 am

Chairperson

Dr. Surat A. Manjare

Principal,

Jaysingpur College Jaysingpur

Gracious Presence

Dr. Kiran A. Khandare

Principal,

Dr. H. N. Sinha Mahavidyalaya Patur

Prof. (Mrs.) Manisha V. Kale

Vice-Principal

Jaysingpur College Jaysingpur

Conveners

Dr. Ronil Ahale

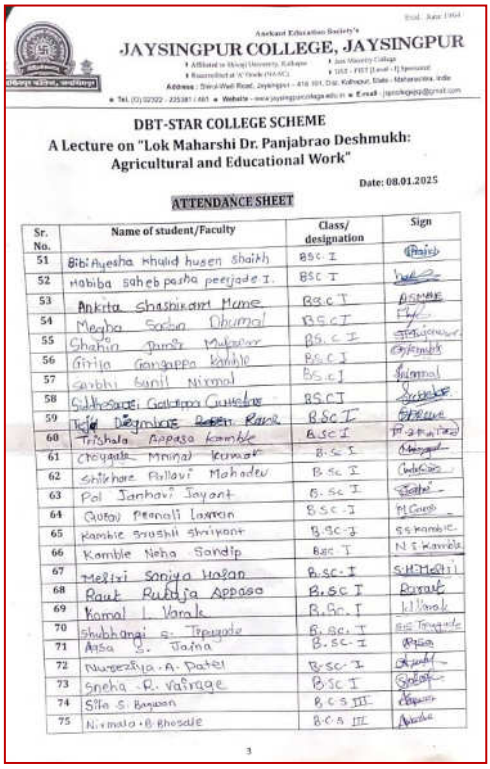
Dr. H. N. Sinha Mahavidyalaya Patur

Dr. Suraj Umdale

Jaysingpur College Jaysingpur

Dr. P. P. Chikode, Dept. of Physics | Dr. S. R. Patil, Dept. of Zoology | Dr. R. S. Dhabbe, Dept. of Chemistry | Mr. P. R. Patil, Dept. of Mathematics

Program Brochure



JAYSINGPUR COLLEGE, JAYSINGPUR

DBT-STAR COLLEGE SCHEME

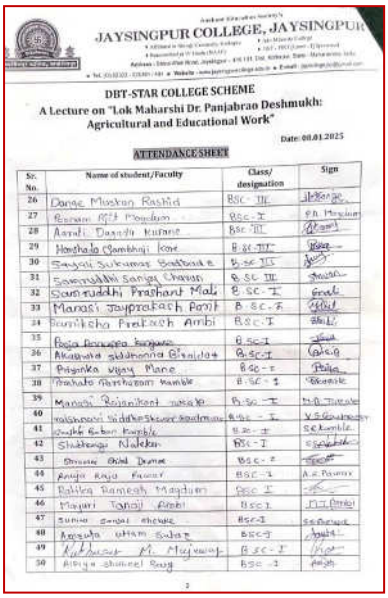
A Lecture on "Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work"

Date: 08.01.2025

ATTENDANCE SHEET

Sr. No.	Name of student/Faculty	Class/ designation	Sign
51	Bibi Ayesha Khalid husen shaikh	BSC I	
52	Habiba saheb pasha peerjade I.	BSC I	
53	Ankita Shashikant Meme	B.Sc I	
54	Megha Sarjan Dhumal	B.Sc I	
55	Shahin Pasha Mulakavar	B.Sc I	
56	Girija Gangappa Kamble	B.Sc I	
57	Sarbhi Sunil Nirmal	B.Sc I	
58	Siddhesagar Gautappa Gunjetkar	B.Sc I	
59	Kale Digambar Appa Rani	B.Sc I	
60	Trishala Appasa kamble	B.Sc I	
61	Chougale Mrunal Kumar	B.Sc I	
62	Shirbhate Pallavi Mahadev	B.Sc I	
63	Pal Janhavi Jayant	B.Sc I	
64	Gutal Pranali Laxman	B.Sc I	
65	Kamble Srushti Shrikant	B.Sc I	
66	Kamble Neha Sandip	B.Sc I	
67	Mestri Sanjya Hasan	B.Sc I	
68	Raut Ruddja Appasa	B.Sc I	
69	Komal L. Varale	B.Sc I	
70	Shubhangi S. Tapagade	B.Sc I	
71	Ansa S. Jaina	B.Sc I	
72	Nurezahja A. Patel	B.Sc I	
73	Sneha R. Vairage	B.Sc I	
74	Sita S. Bajwan	B.C.S III	
75	Nirmala B. Bhosale	B.C.S III	

Attendance Sheet



JAYSINGPUR COLLEGE, JAYSINGPUR

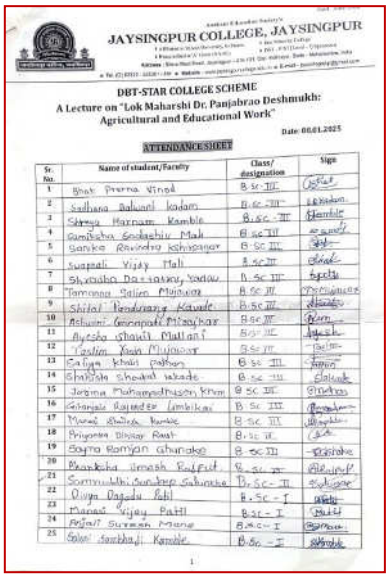
DBT-STAR COLLEGE SCHEME

A Lecture on "Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work"

Date: 08.01.2025

ATTENDANCE SHEET

Sr. No.	Name of student/Faculty	Class/ designation	Sign
26	Dange Muskan Rashid	BSC III	
27	Rayan Md Moulana	BSc I	
28	Aarati Dagadu Kurane	BSc III	
29	Hanchale Gambhaji Kone	B.Sc III	
30	Sayyed Sukumar Sadhana B	B.Sc III	
31	Sawantwadi Sanjay Chavan	B.Sc III	
32	Samruddhi Prashant Mali	B.Sc I	
33	Manasi Jayprakash Pandit	B.Sc II	
34	Purnikha Prakash Ambi	B.Sc I	
35	Raja Arunappa Burgunde	B.Sc I	
36	Akanksha siddhanna Bhandare	B.Sc I	
37	Priyanka Vijay Mane	B.Sc I	
38	Prachala Parshuram Kamble	B.Sc I	
39	Manasi Rajnikant Wasade	B.Sc I	
40	Vaishnavi Siddheshwar Kadam	B.Sc I	
41	Sruthi Baban Kamble	B.Sc I	
42	Shubhangi Nalekar	B.Sc I	
43	Shreya Anil Dame	B.Sc I	
44	Anuja Raju Pawar	B.Sc I	
45	Rahiba Ramesh Magdum	B.Sc I	
46	Mayuri Tanaji Ambi	B.Sc I	
47	Sunita Sanjay shevale	B.Sc I	
48	Anagha uttam Sutar	B.Sc I	
49	Aishwarya M. Mujawar	B.Sc I	
50	Abhya shankar Roy	B.Sc I	



JAYSINGPUR COLLEGE, JAYSINGPUR

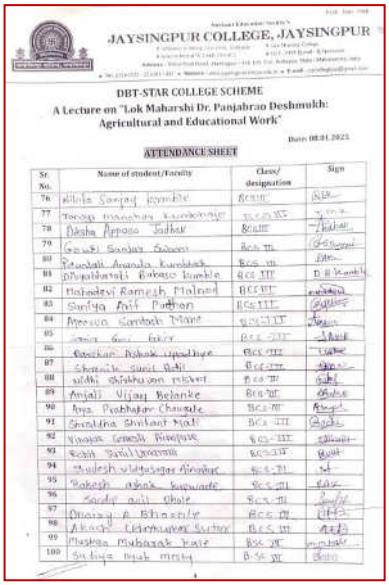
DBT-STAR COLLEGE SCHEME

A Lecture on "Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work"

Date: 08.01.2025

ATTENDANCE SHEET

Sr. No.	Name of student/Faculty	Class/ designation	Sign
1	Bhat Prerna Vinod	B.Sc III	
2	Sadhana Bahuni Kadam	B.Sc III	
3	Shreya Harnam Kamble	B.Sc III	
4	Ganeshan Sadashiv Mali	B.Sc III	
5	Sankha Ravindra Kshirsagar	B.Sc III	
6	Swapnali Vijay Mali	B.Sc III	
7	Shraddha Dayanand Yadav	B.Sc III	
8	Tamanna Salim Mujawar	B.Sc III	
9	Shital Nandkumar Kavale	B.Sc III	
10	Ashwini Ganapati Mirajkar	B.Sc III	
11	Ayesha Shakil Mallani	B.Sc III	
12	Tasfiya Kadir Mujawar	B.Sc III	
13	Sanjna Khabi Pathan	B.Sc III	
14	Shailesh Shankar Wasade	B.Sc III	
15	Jasmin Mohammadhusen Khot	B.Sc III	
16	Gitanjali Rajendra Limbikai	B.Sc III	
17	Murad Shaikh Kamble	B.Sc III	
18	Priyanka Bhaiyya Raut	B.Sc III	
19	Sayra Ramjan ghatake	B.Sc III	
20	Mankasha Umesh Rajput	B.Sc III	
21	Somwanshi Sandeep Sahadeo	B.Sc II	
22	Divya Dagadu Patil	B.Sc I	
23	Mrunal Vijay Patil	B.Sc I	
24	Anjali Suraan Mane	B.A.C I	
25	Gaikwad Sambhaji Kamble	B.Sc I	



JAYSINGPUR COLLEGE, JAYSINGPUR

DBT-STAR COLLEGE SCHEME

A Lecture on "Lok Maharshi Dr. Panjabrao Deshmukh: Agricultural and Educational Work"

ATTENDANCE SHEET

Sr. No.	Name of student/Faculty	Class/ designation	Sign
76	Mhaske Sanjay Ramdas	B.Com III	
77	Taroja Narendra Kumbhojkar	B.Com III	
78	Disha Appasa Jadhav	B.Com III	
79	Gawali Sanjay Sakaru	B.Com III	
80	Tawalali Ananda Kumbhar	B.Com III	
81	Divyabharati Baburao Kamble	B.Com III	
82	Mahadevi Ramesh Malwad	B.Com III	
83	Sanjya Anil Pathan	B.Com III	
84	Mansura Santosh Mane	B.Com III	
85	Sonia Gani Bakar	B.Com III	
86	Darshan Mahesh Upadhye	B.Com III	
87	Shaneik Sunil Kale	B.Com III	
88	Siddhi Shivkumar Mishra	B.Com III	
89	Anjali Vijay Belanke	B.Com III	
90	Anya Prabhakar Chavare	B.Com III	
91	Sanskruti Shrikant Mali	B.Com III	
92	Vinaya Ganesh Pimpale	B.Com III	
93	Rohit Sunil Ganorkar	B.Com III	
94	Sudesh Vidyasagar Alwekar	B.Com III	
95	Rakesh Ashok Kapwade	B.Com III	
96	Sandip Anil Ohale	B.Com III	
97	Dhiraj R. Bhosale	B.Com III	
98	Akash Laxmanrao Sutar	B.Com III	
99	Mushtaq Mubarak Kale	B.Sc III	
100	Sanjya Dnyan mane	B.Sc III	

Attendance Sheets

After the guest lecture, the student participants gave a short feedback about the lecture. The event was concluded with a vote of thanks presented by Dr. K. D. Khaladkar, where she expressed his gratitude to the Dr. Rajesh Mirge, Prin. Dr. S. A. Manjare, Prof. Manisha V. Kale Vice-Principal, Head, Dept. of Botany, Committee members and especially student for significant interest in the guest lecture.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व्याख्यान

Glimpses of a lecture on "Dr. Panjabrao alias Bhausaheb Deshmukh, Agricultural and Educational Work

Dr. S. D. Umdale
Departmental Coordinator
DBT-Star College Scheme

Dr. S. R. Sabale
Coordinator
DBT-Star College Scheme

Prof. Dr. (Mrs.) M. V. Kale
Vice-principal & Head
Department of Botany

Dr. S. A. Manjare
Principal
Jaysingpur College Jaysingpur

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Botany

REPORT ON

SEED EXHIBITION

Organized by

Department of Botany

RESOURSE PERSON

Padmashri Rahibai Soma Popere (Seed Mother)

Under the aegis of

DBT-STAR COLLEGE SCHEME

On

29th January, 2025

DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

Activity Report

Year:	**2024-25**
Name of the Activity:	**SEED EXHIBITION**
Date:	29th January, 2025
Venue:	Conference Hall
Financial Assistance	DBT-STAR COLLEGE SCHEME
Chief Guest/s or Resource Person/s	Padmashri. Smt. Rahibai Soma Popere (Seed Mother)
	1) Hon. Mr. Raju Shetti Former MP, Hatkanagle Loksabha Matdar Sangh 2) Hon. Mr. Ganpatrao Patil Chairman, Shri Datta Uddyog Samuh, Shirol 3) Hon. Dr. Subhash Adadande Chairman, Local Committee, Jaysingpur College, Jaysingpur; Member, Governing Council, Anekant Education Society, Baramati
Program in-charge:	Dr. Pravin B. Karuna
Organised for: College/class/ staff	Students, Staff, Farmers
No. of Participants	**124**
Nature: (e.g. Academic, cultural, sports etc)	Extracurricular Activity
Objectives of the Activity	The objective of the seed exhibition is to raise the awareness of local crop diversity amongst the students at the rural community level and, Sale and exchange of local varieties
Short Report (in English)	The department of Botany organised Seed Exhibition on 29th January, 2025. During, Padmashree Rahibai Soma Popere guided students and shared her experience of seed bank. She shared her knowledge about 200 types of indigenous seeds and wild food resources and its nutritional values.
Program Outcome	• Students got importance of desi seeds and organic farming for environmental conservation and for good health. • Developed a skill of communication & marketing among the students. • Students learnt about different traditional seeds and develop interest in organic farming.

SEED EXHIBITION REPORT

29th January, 2025

The Department of Botany, Jaysingpur College, Jaysingpur has organized a 'SEED EXHIBITION' on 29th January, 2025 at Conference hall, Jaysingpur College, Jaysingpur. During this event, all students, teachers, administrative Staff & Non-Teaching staff, and farmers from adjoining areas were actively participated in the program.

The function was started at 11:00 am with introduction of the program and welcome of the chief guest Padmashri. Smt. Rahibai Soma Popere (Seed Mother), and chairperson of the program Mr. Raju Shetti; Hon. Mr. Ganpatrao Patil and Hon. Subhash Adadande by Prof. Mrs. M. V. Kale, Vice-Principal and Head, Department of Botany. In her speech she has given brief idea of the program and the department of botany is taking initiative in the formation of Seed GenBank at the Jaysingpur College Jaysingpur. The welcome program was inaugurated by lightening of lamp and showing the documentary film on the work of Rahibai Soma Popere and also, the work of B. Sc. III Botany students in seed multiplication at Nakshatra Botanical garden. The introduction of the chief guest was given by the program coordinator, Dr. Pravin Karuna, Asst. Prof. Department of Botany has given the introduction of the chief guest Padmashri. Rahibai Soma Popere (Seed Mother). In his introduction he highlighted work of the farmer leaders, Hon. Mr. Raju Shetti and Hon. Mr. Ganpatrao Patil

After introduction, the chief guest Padmashri. Rahibai Soma Popere (Seed Mother) gave talk about the various crop plants cultivated in her village and their health benefits. In her talk, she appreciated the organisation of the seed exhibition event. She told that, at present about 122 landraces of 32 crops (Paddy, Millets, Beans, vegetables, Oil seeds etc) are under conservation. Also, she prepared and sold 4000 seed packets for kitchen farming. She has expertise in the SRI method of Paddy cultivation, improved cultivation practices for Hyacinth Bean, Participatory seed selection and Organic farming techniques. Also, she created awareness among the women students for participation in the Self-Help movement, Village sanitation, Seed Conservation and wild food exhibitions.

After her talk, on the chief guests remark, Hon. Mr. Raju Shetti, has encouraged students to involved in the research on native, wild crops and create the awareness among the various farmers of the local villages. The second chief guests, Hon. Mr. Ganpatrao Patil, gave information about the work of 'Mahila Bachat Gat' in the conservation and multiplication of Wild-Deshi-Gavrani Seeds. The chairperson of the program, Hon. Subhash Adadande, Chairman, Local Committee, Jaysingpur College, Jaysingpur has appreciated initiative taken by the department of Botany for the establishment of the seed bank of Wild-Deshi-Gavrani seeds. He also told that, the conservation of agro biodiversity and wild food resources is need of the hour for the nutritional security and to tackle zero hunger.

The whole program was anchored by Dr. Mrs. Sujata G. Patil. The program was ended with vote of thanks given by Dr. Suraj Umdale, I/C Coordinator, DBT STAR COLLEGE SCHEME and with the permission of the chairperson of the program, Prof. Mrs. Manisha V. Kale declared that program was successfully completed and all dignitaries and student participants were visited the seed exhibition.

The Seed Exhibition was started at 1:00 pm by inauguration of wonderful and informative posters prepared by the students. The chief guest of the program, Padmashri. Smt. Rahibai Soma Popere (Seed Mother) inaugurated the seed exhibition. Hon. Smt. Rahibai Soma Popere, Hon. Mr. Raju Shetti and Hon. Mr. Ganpatrao Patil curiously visited to each and every stall of the students and made interaction with students during the program. The seed stalls were self-explanatory and based on the cultivation of the wild-gavrani-deshi seeds. Also, the exhibition created awareness about the health benefits of organic farming and nutritional potential of wild-gavrani-deshi seeds. In the exhibition all 21 students from B. Sc. III botany students displayed about 45 different landraces. During seed exhibition the floral rangoli of Hon. Mrs. Rahibai Soma Popere (Beej Mata), is also main attraction for the visitors.

The event not only provided a platform for our students to displayed their work of establishment of seed bank but also aware the nutritious and sustainable food source to the farmers and public. This initiative aligns with the goals of the Indian Government initiative to ensure sustained availability of the bio-resources for food and nutrition security, livelihood and economic gains to the communities while also building resilience against the growing threat of climate change.

Program Brochure

अनेकांत एज्युकेशन सोसायटी,

जयसिंगपूर कॉलेज, जयसिंगपूर.

सन्मानपत्र

पद्मश्री सौ. राहीबाई सोमा पोपेरे

(बीज माता)

अनेकांत एज्युकेशन सोसायटी, बारामती संचलित जयसिंगपूर कॉलेज, जयसिंगपूर यांच्या वतीने आपणास हे मानपत्र बहाल करत असताना आम्हाला अतिशय आनंद होत आहे व अभिमान वाटत आहे.

अहमदनगर जिल्ह्यातील अकोले तालुक्यातील कोंभाळणे हे आपले गाव. एका सामान्य शेतकरी कुटुंबातील असूनही कृषी क्षेत्रात असामान्य कामगिरी बजावून आपण गावाच्या नावाची पताका सर्वत्र फडकवीत राहिलात याचा आम्हाला सार्थ अभिमान वाटतो. पारंपारिक बियाण्यांच्या वाणांचे संरक्षण, संवर्धन करत असताना आपण त्यांचे महत्व अधोरेखित करत आहात. त्यांचे वैशिष्ट्य आणि वेगळेपण आपल्या कार्यातून दाखवून देत आहात. अनेक प्रकारच्या देशी पालेभाज्या व वेलवर्गीय भाज्यांचे बियाणे जतन करण्याचे काम आपण अखंडपणे निष्ठापूर्वक आणि निर्धारपूर्वक करत आहात. आंतरराष्ट्रीय पातळीवरील कोणत्याही बियाणे कंपनीकडे उपलब्ध नसलेले बियाणे जतन करणे ही आपली खासियत आहे. यासाठी आपण सर्वांच्या कौतुकास, आदरास व अभिनंदनास पात्र आहात. म्हणूनच आपला यथार्थ गौरव व्हावा या भावनेने आणि भूमिकेने आम्ही आज आपल्या कार्याची पोचपावती म्हणून हे सन्मानपत्र कृतज्ञतापूर्वक बहाल करत आहोत.

देशी वाणांच्या बियाण्यांची जपणूक केल्याबद्दल २०२० मध्ये भारत सरकारने पद्मश्री पुरस्काराने आपणास सन्मानित केले आहे. तसेच भारत सरकारच्या महिला व बालकल्याण विभागाकडून ही २०१८ मध्ये नारीशक्ती पुरस्कार देऊन आपला यथोचित सन्मान केला आहे. महाराष्ट्र टाईम्सच्या मटा सन्मान सोहळ्यात वसुंधरा साथी सन्मान बहाल करून आपल्याला गौरविण्यात आले आहे. तर महाराष्ट्र सरकारच्या कृषी विभागातर्फे आत्मा प्रकल्पांतर्गत आदर्श शेतकरी पुरस्कार आपणास प्राप्त झाला आहे. एवढेच नव्हे तर बी.बी.सी. ने २०१८ मध्ये १०० प्रभावशाली महिलांमध्ये आपल्या नावाचा समावेश करून आंतरराष्ट्रीय पातळीवर आपल्या कार्याची दखल घेतली आहे. ज्येष्ठ शास्त्रज्ञ रघुनाथ माशेलकर यांनी एका कार्यक्रमात सीड मदर असा उल्लेख करून तुमच्या कार्याची मुक्त कंठाने प्रशंसा केली आहे.

३००० स्त्रिया व शेतकरी यांचा बचत गट करून त्यांच्या मार्फत अस्सल गावठी व संपूर्ण सेंद्रिय पद्धतीने भाज्या पिकवणे व त्यांचे बियाणे मडक्यात जतन करून ठेवण्याचे आपले कार्य विशेष उल्लेखनीय स्वरूपाचे आहे.

आपल्या कार्याची दखल घेऊन अनेक प्रतिष्ठित संस्थांकडून राष्ट्रीय व आंतरराष्ट्रीय पातळीवर आपला सन्मान झाला आहे. परिणामी तुमचे कार्य जगाच्या नकाशावर ठळकपणे सुवर्ण अक्षराने नोंदवले गेले आहे. आम्ही आपल्या बहुमोल कार्याबद्दल सन्मानपत्राच्या माध्यमातून मनःपूर्वक अभिनंदन करतो. आपल्या भावी आयुष्यात असेच निरंतर कार्य करत राहण्यासाठी आमच्याकडून आपणास हार्दिक शुभेच्छा..!

दिनांक - २९/०१/२०२५

प्रा.डॉ.सी.एम.की. काळे	डॉ.एस.ए. मांजरे	डॉ.महावीर रा. अकोळे	डॉ.एस.बी. अडदंडे
विभागप्रमुख व उपप्राचार्य, वनस्पतीशास्त्र विभाग	प्राचार्य, जयसिंगपूर कॉलेज, जयसिंगपूर	सचिव, स्थानिक समिती,जयसिंगपूर सदस्य, अनेकांत एज्युकेशन सोसायटी बारामती	अध्यक्ष, स्थानिक समिती,जयसिंगपूर सदस्य, अनेकांत एज्युकेशन सोसायटी बारामती

Letter of Honor


JAYSINGPUR COLLEGE JAYSINGPUR
SEED EXHIBITION
RECORDING STUDIO
GPS Map Camera
Jaysingpur, Maharashtra, India
Qhc5+938, Shahunagar, Jaysingpur, Maharashtra 416101, India
Lat 16.770955° Long 74.557639°
29/01/25 12:16 PM GMT +05:30
Google


ANEKANT EDUCATION SOCIETY'S
JAYSINGPUR COLLEGE JAYSINGPUR


JAYSINGPUR COLLEGE JAYSINGPUR


JAYSINGPUR COLLEGE JAYSINGPUR

Glimpses of the Program

Glimpses of the Seed Exhibition

Glimpses of the Seed Exhibition

Dr. S. D. Umdale **Departmental Coordinator** **DBT-Star College Scheme**	Dr. S. R. Sabale **Coordinator** **DBT-Star College Scheme**	Prof. Dr. (Mrs.) M. V. Kale **Vice-principal & Head** **Department of Botany**	Dr. S. A. Manjare **Principal** **Jaysingpur College Jaysingpur**

Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany

Report of

VISIT TO A NATIONAL RESEARCH INSTITUTES/LABORATORIES

to

Agharkar Research Institute (ARI)

ICAR-NRC for Grapes (NRCG)

Vasantdada Sugar Institure (VSI)

ICAR-Directorate of Floriculture (ICAR-DFR)

DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

Under the aegis of

DBT-STAR COLLEGE SCHEME

(2024-25)

Activity Report

Year:	**2024-25**
Name of the Activity:	**National Research Institutes Visit For B.Sc. 2 Students**
Date:	5th & 6th, February 2025
Venue:	1) Agharkar Research Institute (ARI) 2) ICAR-NRC for Grapes (NRCG) 3) Vasantdada Sugar Institute (VSI) 4) ICAR-Directorate of Floriculture (ICAR-DFR)
Financial Support	DBT-STAR COLLEGE SCHEME
Tour In-charge :	Dr. P. B. Karuma
Organised for: College/class/ staff	B. Sc. II (Botany) Students
No. of Participants	22F (01 staff)+02 M staff= 25
Nature: (e.g. Academic, cultural, sports etc)	Research Institute, Research Laboratory Visit
Objectives of the Activity	The objective of study tour is to know the various National Research Laboratories, Industries; Exposure to advanced techniques; gaining experience with advanced research equipment, understanding current research methodologies, observing ongoing research projects, learning about career paths in research, developing critical thinking skills by analyzing data, and fostering an interest in pursuing further research studies.
Short Report (in English)	A total 22 students were participated in this visit along with two teachers and one staff. The students visited the Agharkar Research Institute (ARI); ICAR-NRC for Grapes (NRCG); Vasantdada Sugar Institute (VSI) and ICAR-Directorate of Floriculture (ICAR-DFR)

VISIT TO A NATIONAL RESEARCH INSTITUTES/LABORATORIES VISIT

5th & 6th, January 2025

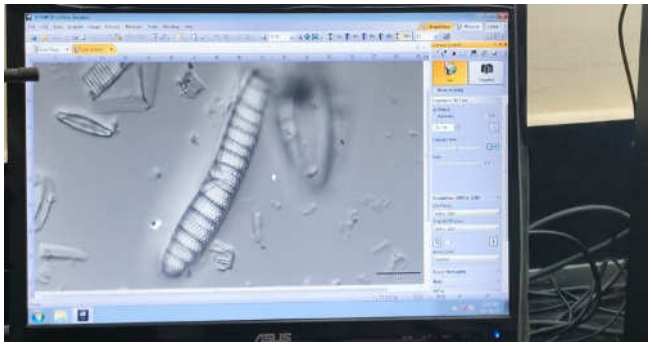
With the objective to give industrial and research laboratory exposure to students, the Department of Botany has organized an industrial visit to Agharkar Research Institute (ARI); ICAR-NRC for Grapes (NRCG); Vasantdada Sugar Institute (VSI) and ICAR-Directorate of Floriculture (ICAR-DFR) Pune on 5th & 6th, February 2025. A total 22 students and two teachers and one staff members were participated in the visit.

The Agharkar Research Institute (ARI) is located in Pune, Maharashtra, India. Agharkar Research Institute is an autonomous, grant-in-aid research institute of the Department of Science and Technology, Government of India. In Agharkar Research Institute, students were visited Mycology division. In Mycology division, students were observed the various methods of preservation of fungi like lyophilization, preservation in glycerol, mineral oil, sterile water, and cryopreservation techniques. The different fungi were cultured in potato carrot media. After mycology division students visited different instruments were known like HPLC, spectrophotometer, oven, autoclave, laminar flow microscopes etc. The Dr. Paras Nath Singh, Dr. R. Nichitha has given information about the methods for production of antibiotics, and various drugs. The students visited Ajrekar Mycological Herbarium (AMH) of fungi. The National Fungal Culture Collection of India (Acronym- NFCCI) is a unique national facility established in 2008 by DST, New Delhi at Agharkar Research Institute, Pune. The NFCCI is an exclusive repository holding over 2800 strains of different groups of fungi. The herbarium section of ARI has acronym, AHMA (Agharkar Herbarium of Maharashtra Association) which is established in 1984 and have has 3500 herbarium specimens. The ARI have great collection Diatoms and about 9000 diatom specimen slides are maintained.

Visit to Research Laboratory-Agharkar Research Institute (ARI), Pune




Dr. Subhash Gaikwad – Cryopreservation Unit (ARI), Pune

Dr. Mital Thacker & Dr. Radhakrishnan Cheran- Diatom Section (ARI), Pune



Dr. Sarang Bokil- Herbarium Section (ARI), Pune




Dr. S. K. Singh- Mycology Section (ARI), Pune




Dr. Satishkumar Mourya and Dr. Samrudhi- DNA Fingerprinting (ARI), Pune

2) ICAR-NRC for Grapes (NRCG), Pune

The main aim of NRC Grapes is strategic & applied research on safe grape production & productivity. The national referral laboratory for food safety & pesticide residue in fruits. The FSSAI has granted approval to the ICAR- National Research Centre for grapes as the National Reference laboratory for the analysis of pesticide residue % mycotoxin levels in food matrices. The students of B. Sc. 2 visited the analytical laboratory, where various instruments like Mass spectroscopy, LRMS, HRMS, Atomic absorption Units and other instruments required for analysis of food, waste and any other samples were working. The staff gave information about Agriculture Business Incubation Centre was also sanctioned in ICAR-NRC Pune in 2019 that provides support to perspective entrepreneurs through technical assistance, consultancy, infrastructure facility, guidance for sustainable business establishment. During interaction with students they gave details of the job opportunities for graduate students in NRC Grapes.

ICAR-National Research Centre for Grapes (NRCG), Pune

3) Vasantdada Sugar Institute (VSI)

The Vasantdada Sugar Institute (VSI) is a recognized for improvement in the socioeconomic status of sugarcane grower farmers by providing to them new and cutting edge technologies The Institute strives for an all-encompassing progress of the Indian Sugar Industry. The students were visited the department of Agriculture microbiology, Molecular biology & genetic engineering. Agriculture microbiology department research scholars gave the information regarding the new technologies for mass production of biofertilizers, bio-control agents, organic manures & vermicompost. They also gave the information about consultancy for establishment of Biofertilizers. Finally Molecular biology and genetic engineering section staff gave the detailed information about the research work on going in the departments and also gave the information

about equipments facility like PCR, Gene gun, ELISA readers, Electrophoresis unit etc. used for the development of good sugarcane varieties giving higher yield.



Vasantdada Sugar Institute (VSI), Pune

4) ICAR-Directorate of Floriculture (ICAR-DFR)

The ICAR-Directorate of Floricultural Research (DFR) is a research institute that conducts research and development in commercial floriculture. It's located in Pune, India and is part of the Indian Council of Agricultural Research (ICAR). The students were introduced to the various aspects of flower crop nursery establishment starting from the infrastructure and manpower required, to the selection of ornamentals for indoor and outdoor purposes, different methods used for plant propagation on a large scale for commercial purposes, their protection and final plantation in bags and pots for sale were discussed by students.

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Jaysingpur College Jaysingpur

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Botany

REPORT ON

CELEBRATION OF NATIONAL SCIENCE DAY

Under the aegis of

DBT-STAR COLLEGE SCHEME

On

28th February, 2025

DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	**Celebration of National Science Day-2025**
Date:	28th February, 2025
Venue:	Atal Tinkering Laboratory
Financial Assistance	DBT-STAR COLLEGE SCHEME
Chief Guest/s or Resource Person/s	Hon. Prin. Chandrashekhar V. Murumkar Former Principal, Anekant Education Society's (Baramati) Tuljaram Chaturchand Collge, Baramati
	Hon. Dr. Subhash Adadande Chairman, Local Committee, Jaysingpur College, Jaysingpur; Member, Governing Council, Anekant Education Society, Baramati
Program in-charge:	Dr. Suraj D. Umdale
Organised for: College/class/ staff	Students, Staff, Farmers and Visitors
No. of Participants	**135**
Nature: (e.g. Academic, cultural, sports etc)	Extracurricular Activity
Objectives of the Activity	• To promote scientific awareness and encourage scientific temper among the students, • To show or aware about scientific achievements, • To promote Innovation and technological development
Short Report (in English)	The department of Botany organised Exhibition of science models, research posters, and herbal preparations of amala and rose on 28th February, 2025. During this event, students got the opportunity to witness innovative scientific projects and research in the field of botany. Overall, the Science Day celebration was a great success, providing students with a platform to represent their products and food formulations. It was an enriching experience that not only educated but also entertained, leaving a lasting impact on everyone involved.

CELEBRATION OF NATIONAL SCIENCE DAY-2025

28th February, 2025

The Department of Botany, Jaysingpur College, Jaysingpur has celebrated a National Science Day on 28th February, 2025. During this event, all students, teachers, administrative Staff & and non-teaching staff, from our college were actively participated in the program. The Science Exhibition was started at 10:00am by inauguration of wonderful Atal Tinkering lab with informative posters prepared by the students. The chief guest of the program, Formal Prin. Dr. C. V. Murumkar inaugurated the science exhibition. Hon. Dr. C. V. Murumkar, curiously visited to each and every stall of the students and made interaction with students during the program.

The students prepared posters were self-explanatory. In the exhibition all 21 students from B. Sc. 3 botany and B. Sc. 2 students displayed. During seed exhibition the students of department of Botany displayed bonsai, Dish garden, Bottle garden, Amala products, Seed Jewellery, research posters, Wallpapers and scientific models such as hydroponics which is main attraction for the visitors.

The event provided a platform for students to display their curiosity about science. This initiative aligns with the goals of the Indian Government initiative and theme of national science day-2025 to **"Empowering Indian Youth for Global Leadership in Science & lnnovation for Viksit Bharat"**

Glimpses of the Celebration of National Science Day- 2025

Glimpses of the Celebration of National Science Day- 2025

Dr. S. D. Umdale
Departmental Coordinator
DBT-Star College Scheme

Dr. S. R. Sabale
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Prof. Dr. (Mrs.) M. V. Kale
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Dr. S. A. Manjare
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Jaysingpur College Jaysingpur

Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany
Under the aegis of
DBT STAR COLLEGE SCHEME

REPORT ON

Student Participation in International/National/State-level Conferences

2024-25

Under the aegis of

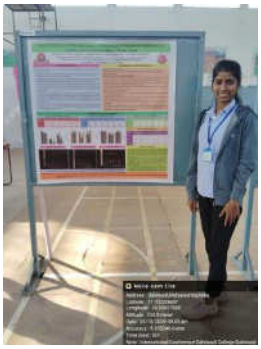
DBT-STAR COLLEGE SCHEME

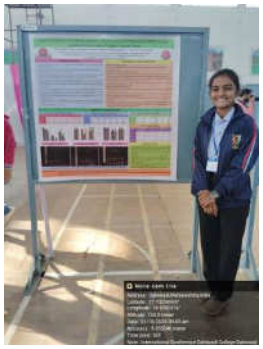
DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

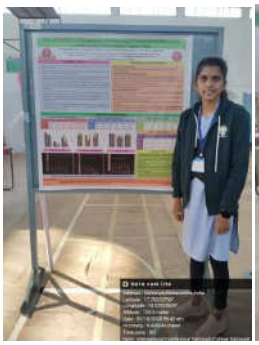
STUDENT PARTICIPATION IN NATIONAL CONFERENCE

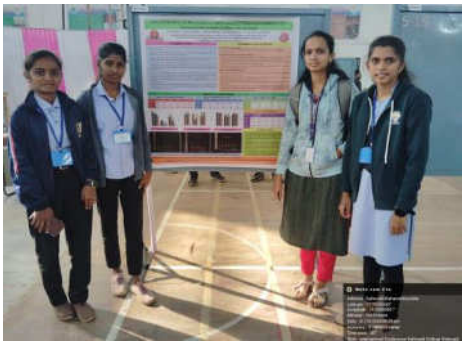
1) An International Conference on Advancement and Emerging Trends in Science (ICAETS-2025) on 8th to 10th January, 2025 organized by Dahiwadi College Dahiwadi

Sr. No.	Name of Student	Tile of Research Poster	Class
1	Asad K. Mujawar	Effect of Mycorrhiza fungi (*Glomus fasciculata*) on the Morpho-physiology of the plant species- *Phaseolus vulgaris*	B. Sc. III
2	Shital Pandurang Kavade		
3	Tamanna Salim Mujawar		
4	Prerna Vinod Bhat	Effect of Salt Stress on Morphological And Physiological Characters of Different Rice Landraces (*Oryza Sativa* L.) from Shirala Tehsil	
5	Shreya Harnam Kamble		
6	Sadhana Balwant Kadam		










Note cam lite
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Latitude : 17.7021277°
Longitude : 74.5392120°
Altitude : 734.0 meter
Date : 01/10/2025 02:43 pm
Accuracy : 3.7900925 meter
Time zone : IST
Note : International Conference Dahiwadi College Dahiwadi


Note cam lite
Address : Dahiwadi,Maharashtra,India
Latitude : 17.7022583°
Longitude : 74.5391485°
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Effect of Salt Stress on Morphological And Physiological Characters of Different Rice Landraces (*Oryza Sativa* L.) from Shirala Tehsil

Prerna Bhat[1], Shreya Kamble[1], Sadhana Kadam[1], Shweta Magdum[1, 2]* and Shivram Khadke[2]

[1]Department of Botany, Jaysingpur College Jaysingpur (Affiliated to Shivaji University Kolhapur) Maharashtra-416101, India
[2]Department of Botany, Smt. KWC Sangli (Affiliated to Shivaji University Kolhapur) Maharashtra-416101, India
*Correspondence - shwetamagdum29495@gmail.com

INTRODUCTION

- Rice (*Oryza sativa* L.) is one of the most cultivated cereal crop and important staple food all over the world.
- Maharashtra state contributes only 2.8% rice production in India and Shirala tehsil is one of the hot spot for rice cultivation in Maharashtra.
- About 45 rice landraces are cultivated in different localities of Shirala Tehsil, from which Jondhala, Masad and Wandar is traditionally grown rice cultivar in Shirala Tehsil.
- One of the most significant environmental stresses affecting plant growth and development is salt stress. Various rice landraces responses to NaCl concentrations in various ways. Low osmotic potential caused by high soil salinity prevents seeds from germinating.
- In order to avoid needless losses in agriculture and simultaneously lessen the issues associated with food scarcity, this situation has prompted several scientists to become interested in creating salt-tolerant rice cultivars (Hakim et al., 2014).Therefore, creating high-yielding, salt-tolerant rice cultivars is essential to extending agriculture into areas impacted by salt.
- However, the effects of various salt types on seed germination and early seedling growth of *Oryza sativa* L. are not fully understood and thus the study of the seed response to various salts is actually desirable.

MATERIALS AND METHODS

Collection of seed materials:

- The seeds of Jondhala, Masad and Wandar rice landraces collected from local farmers from Shirala Tehsil.

Experimental design and salinity treatments:

- Healthy, vigorous and uniform size seeds were selected and surface sterilized with 70% ethanol solution for 30 seconds. Seeds were washed in fungicide for another 20 minutes.
- Sterilized seeds were treated with salt solutions 50 mM, 100 mM, 150 mM, 200 mM and 250 mM NaCl concentrations and deionized water as a control.
- The treatments were placed in growth chamber with the room temperature was set within 25 ± 1°C with 12 h daylight for two weeks.

Observation and data collection:

- Daily observation and counting of the number of seeds which were sprouted and germinated were done up to fourteen days.
- Morphological characteristics of leaf and root for every treatment at early seedling stage was observed using dissecting microscope and recorded.
- After fourteen days of treatment application, measurement of parameters were done and calculated.
- The following parameters studied in the experiment: **water uptake percentage, germination percentage, germination index, relative injury rate, seed vigor, mean germination time, biomass, salt tolerance and proline content.**

RESULT AND DISCUSSION

Table 1: Water Uptake Percentage

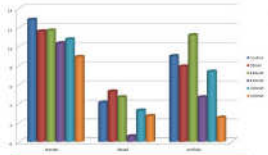
Landraces	Control	50mM	100mM	150mM	200mM	250mM
Wandar	22.89%	23.61%	18.65%	19.25%	24.67%	46.74%
Masad	22.13%	23.58%	25.65%	22.68%	21.76%	27.36%
Jondhala	18.50%	19.70%	15.67%	23.90%	22.82%	16.60%

Table 2: Germination percentage

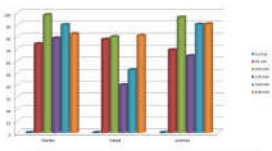
Landraces	Control	50mM	100mM	150mM	200mM	250mM
Wandar	100%	100%	100%	90%	90%	90%
Masad	100%	100%	100%	60%	90%	80%
Jondhala	100%	90%	90%	80%	100%	80%

Table 3: Relative Injury Rate

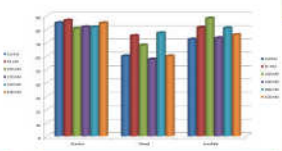
Landraces	Control	50mM	100mM	150mM	200mM	250mM
Wandar	-	0%	0%	0.1%	0.1%	0.1%
Masad	-	0%	0%	0.66%	0.16	0%
Jondhala	-	0.1%	0.1%	0.2%	0%	0.2%



Graph 1: Seed Vigor



Graph 2: Salt Tolerance



Graph 3: Biomass

Table 4: Proline Estimation

Landraces	Control	50 mM	100 mM	150 mM	200 mM	250 mM
Wandar	0.741	0.892	0.740	0.760	0.752	0.798
Masad	0.736	0.907	0.732	0.744	0.767	0.772
Jondhala	0.746	0.823	0.729	0.790	0.728	0.779

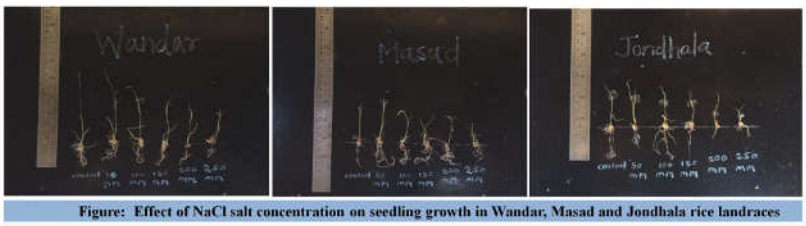


Figure: Effect of NaCl salt concentration on seedling growth in Wandar, Masad and Jondhala rice landraces

CONCLUSION

- The study indicates that three rice landraces exhibit improved germination, survival rates, and seed vigour when treated with 50 mM and 100 mM NaCl concentration, while higher concentrations treatment generally lead to decreased germination percentage.
- Overall, lower concentration of NaCl consistently outperform in promoting seedling growth and vigour across three landraces.
- Additionally, proline concentration indicates varying levels of plant stress, with lower proline levels associated with more effective treatments.
- Here, 100 mM NaCl concentration shows lower proline content in Jondhala, Masad and Wandar landraces of rice. Therefore 100 mM NaCl concentration is more efficient among all treatments.

Acknowledgement: The present study was conducted under the financial assistance of DBT-STAR COLLEGE SCHEME

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Effect of Mycorrhiza fungi (*Glomus fasciculata*) on the Morpho physiology of the plant species- *Phaseolus vulgaris*

Asad Mujawar[1], Tamanna Mujawar[1], Shital Kavade[1] and Saurabh Chavan[1*]

[1]Department of Botany, Jaysingpur College Jaysingpur (Affiliated to Shivaji University Kolhapur) Maharashtra-416101, India

*Correspondence : chavansaurabh91099@gmail.com

Abstract

The study is aims to investigate the impact of Mycorrhiza fungus (*Glomus fasciculata*) on seed germination, sustainability, flowering time, seed vigor, seedling length, stress tolerance, biomass content, and chlorophyll content in the plant Phaseolus vulgaris. We selected this particular plant owing to its short life cycle. The endomycorrhiza species considered for this experiment was *Glomus fasciculata*. "Mycorrhiza" translates to "fungal root" from Greek. The main function of mycorrhiza, particularly present in roots, is to transport nutrients and minerals from fungus to the host plant. mycorrhiza is regarded as an Organic fertilizer. In addition to improving nutrient absorption, plant resilience, and plant wellbeing, mycorrhiza also regulate hormones, boost antioxidant levels, maintain soil health, promote biodiversity, use less water and fertilizer, and increase transplant success rates. After being pre-soaked in water for five hours, the *Phaseolus vulgaris* seeds were treated with varying grades of mycorrhizal concentrations (30%, 60%, and 90%) for four hours. The seeds were then planted in the field, and measurements were made for a number of parameters in comparison with the control. According to the study, significant seed germination was observed at 30% mycorrhiza concentration, and as the concentration of mycorrhiza grows, the percentage of seeds germination falls. When compared to control and other concentrations, the VAM a fungus exhibited an encouraging impact on seed vigor, plant biomass, stress tolerance, early flowering, and overall plant growth at 30% mycorrhizal concentration. The plant's chlorophyll content significantly increased after being infected with 30% mycorrhiza.

Introduction

Mycorrhiza is a mutually beneficial relationship between certain fungus and the roots of several plant species. Mycorrhiza is a symbiotic association between plant roots and the fungi that live in them. Mycorrhiza is commonly found in roots, and its principal role is to transfer minerals and nutrients from fungus to plant. Mycorrhiza is made up of a vast network of strands. Mycorrhiza removes harmful fungi, retains soil moisture, and promotes rapid root growth. Mycorrhiza is regarded as an "organic fertilizer". Mycorrhiza influences plant growth in a variety of ways, including improving nutrient absorption, plant resilience, plant wellbeing, boosting antioxidant levels, regulating hormones, maintaining soil health, promoting biodiversity, reducing water and fertilizer usage, and increasing transplant success rates. There are two basic categories of mycorrhiza: 1) Endomycorrhiza 2) Ectomycorrhiza. Endomycorrhiza, on the other hand, tends to penetrate deeper into cortical cells. Ectomycorrhiza, as the name implies, do not penetrate far into the plant [particularly the cortical cells. Glomus fasciculata is the designated mycorrhiza species for this experiment. This mycorrhiza was chosen For its non-specificity with host plant. Phaseolus vulgaris was chosen as the experimental plant specimen for its short-term life cycle and its dietary importance.

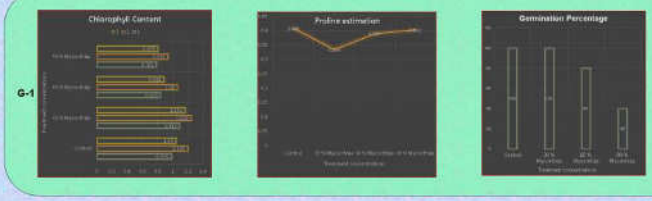
Objective

- To study the effect of Mycorrhiza fungi on seed germination.
- To study the effect of Mycorrhiza fungi on the plant growth, Seed vigor, Seedling length.
- To study the Effect of Mycorrhiza fungi on stress tolerance ability in plant.
- To study the effect of Mycorrhiza fungi on the chlorophyll content in the plant.
- To study the effect, whether Mycorrhiza fungi promote or diminish the plant growth.

Material and Methodology

- Plant material – Seeds of *Phaseolus vulgaris*
- Mycorrhiza species- *Glomus fasciculata*
- The seeds of the species *Phaseolus vulgaris* were treated with different grades of Mycorrhizal concentrations 30%,60% and 90%. The treatment was carried out by pre-soaking (5 Hrs.) followed by soaking of seeds in selected Mycorrhizal concentrations (5 Hrs.) For the comparative study control seeds were used which was pre-soaked for 5 hr. followed by soaking in distilled water for 5 Hrs. About 10 seeds were sowed and allowed to grow in the pots. The treatments were placed on the field for ten weeks.
- Germination percentage was calculated on 5th day. After 70 days of treatment application, measurement of parameters were done and calculated. The parameters studied in the experiment including germination percentage, flowering time, Seed vigor, Seedling length, Stress tolerance, Chlorophyll amount. For each treatment, five plantlets were randomly selected for measurement of morphological characteristics, including plant height, length of shoot, length of root. All morphological characteristics were observed and recorded.

Graphical Data



Result and Discussion

Sr. No	objective	Treatment concentration			
		Control	30%	60%	90%
1	Germination percentage	100 %	100%	80%	40%
2	Flowering Duration	48th day	42th day	45th day	44th day
3	Pod or fruit length	11 cm	12.4 cm	12.1 cm	12 cm
4	Av. Shoot length	13 cm	19cm	20 cm	11cm
5	Av. Root length	69 cm	112 cm	98 cm	65 cm
6	Biomass of plant	4.729 g	13.528 g	5.950 g	3.649 g

Sr. No.	Chlorophyll estimation	Treatment concentrations			
		Control	30 % Mycorrhiza	60 % Mycorrhiza	90 % Mycorrhiza
1.	Chlorophyll – a	0.976	1.083	0.833	0.781
2.	Chlorophyll – b	1.195	1.238	1.060	0.936
3.	Total Chlorophyll	1.040	1.156	0.884	0.805

As the concentration of mycorrhiza increases, the percentage of germination decreases. Notably, plants exhibit significant growth at a lower concentration of 30%, where both shoot and root lengths are enhanced, leading to improved seed vigor. Additionally, plants treated with this lower concentration demonstrate earlier flowering compared to those subjected to higher concentrations and those in a control environment. Furthermore, pod length is considerably greater at the 30% concentration, although there is no significant variation in seed number. A proline test conducted reveals that plants at the lower concentration (30%) exhibit greater stress tolerance in comparison to those at higher concentrations. chlorophyll estimation test, noted that plants treated with 30% mycorrhizal concentration exhibited elevated levels of chlorophyll. This increase in chlorophyll correlates with an enhanced rate of photosynthesis, thereby significantly promoting plant growth.

Conclusion

Significant seed germination was observed at 30% mycorrhiza concentration, and as the concentration of mycorrhiza grows, the percentage of seeds germination falls. When compared to control and other concentrations, the VAM a fungus exhibited an encouraging impact on seed vigour, plant biomass, stress tolerance, early flowering, and overall plant growth.

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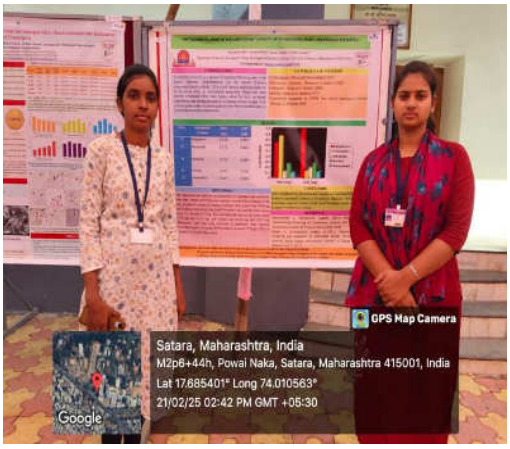
ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	Participation in Two Days **International Conference on Agriculture, Environment and Life Science (ICAELS-2025)**
Date:	08th – 10th January, 2025
Venue:	**Yashavantrao Chavan Institute of Satara (Constituent College of Karmaveer Bhaurao Patil University, Satara)**
Co-ordinator:	Dr. Suraj D. Umdale
Financial Support	DBT-STAR COLLEGE SCHEME
No. of Participants	**9 F (1 Staff)+ 0M (1 Staff)=10 (2 Staff)**
Nature: (e.g. Academic, cultural, sports etc)	**Extracurricular Activity**
Objectives of the Activity	• To present their own research findings • Gain exposure to the latest research • To built research network with other scholars
Short Report (in English)	The nine students of B. Sc. 3 (Botany) have been participated and presented the research poster in the international conference. The students have prepared the research posters on the project carried by students during academic year 2024-25.
Outcome/Remark	• The students have learnt the effective communication with wider audience in the conference • They have received the knowledge of new research directions • The presentations skills and confidence of student participants have been improved. • They got exposure to for future research collaborations, and a boost to their academic and professional profile

STUDENT PARTICIPATION IN INTERNATIONAL CONFERENCE

2) "International Conference on Agriculture, Environment, and Life Sciences (ICAELS-2025) on 20th to 21st February, 2025 organized by the Department of Botany, Yashavantrao Chavan Institute of Science, Satara

Sr. No.	Name of Student	Tile of Research Poster	Class
1	Miss. Varsha Sambhushete ,	*Euphorbia tithymaloides* leaves extract mediated ZnO nanoparticles: Characterization and Evaluation of Cytotoxicity	B. Sc. III
2	Miss. Sanika Kshirsagar		
3	Miss. Manali Patole		
4	Miss. Pranjal Chavan		
5	Miss. Samiksha Mali	Phytochemical Analysis and Antioxident Capacity of the Medicinal Plant: *Parkinsonia Aculeata* L.	
6	Miss. Swapnali Mali		
7	Miss. Prerna Bhat	Attended	
8	Miss. Sadhana Kadam	Attended	



Euphorbia tithymaloides leaves extract mediated ZnO nanoparticles: Characterization and Evaluation of Cytotoxicity

Varsha Sambhushete[1], Sanika Kshirsagar[1], Manali Patole[2], Pranjal Chavan[2], Amruta Koli[2], Shubhangi Mane-Gavade[2], Suraj Umdale[1], Sandip Sabale[2]

[1]Department of Botany, Jaysingpur College Jaysingpur, MS-416101, India
[2]Department of Chemistry, Jaysingpur College Jaysingpur, MS-416101, India
Correspondence: srsabale@gmail.com; surajdumdale@gmail.com

INTRODUCTION

- Zinc oxide nanoparticles (ZnONPs) are one of the metal oxide nanomaterials and a valuable and versatile inorganic compound due to its unique physical and chemical characteristics.
- They exhibit significant chemical stability, an expanded radiation absorption spectrum, a high electrochemical coupling coefficient, and excellent photostability.
- The work focuses on the green synthesis of zinc oxide nanoparticles (ZnONPs) using a novel *Euphorbia tithymaloides* (*ET*) leaves extract.
- To get insights into structural, morphological and optical properties, in-depth spectroscopic and microscopic analyses were used.
- The mitotic index, distribution of cells in mitotic phases, different types of chromosomal aberrations, disturbed metaphase, sticky chromosome, and breaks were recorded.

MATERIALS AND METHODS

- **Green synthesis of ZnONPs:**

Euphorbia tithymaloides

ET leaves extract (5 %)
↓
Aqueous solution of Zinc nitrate (0.1 M)
↓
Precipitation and Evaporation
↓
Calcination at 400˚C for 2 hrs.
↓
ZnO Nanoparticles

- **PXRD patterns of ZnONPs:** The XRD analysis was performed for the determination of orientation, crystallinity, lattice parameters, purity, and size of the ZnO nanoparticle (Fig.1)
- **UV-Vis Spectrophotometer (UV-Vis):** The light wavelength in the region of 300–800 nm is utilized for the evaluation of ZnO nanoparticles (Fig.2).
- **Fourier Transform Infrared (FTIR) Spectroscopy:** To classify functional groups in the aqueous extract and zinc oxide nanoparticles, we perform FTIR spectroscopy in the range of 4000–400 cm−1, as shown in Fig 3.
- **Energy-Dispersive X-ray (EDX) Analysis:** The EDX of the NPs reveals that there is clearly the formation of zinc oxide nanoparticles (Fig. 4)
- **Cytotoxicity Assay:** The fresh and healthy garlic bulb (*A. sativum*; 2n=16) were allowed to grow in glass coupling jar containing sterile distilled water. When the newly emerged roots grew 2 to 3 cm in length, they were treated with ZnONPs suspension of different concentrations at 25, 50, 75, and 100 ppm along with distilled water as control for 24 h. After treatment, the root tips were hydrolyzed in 1N HCl at 50 °C for 2 min followed by staining with 2% aceto-orcein and squashed. The meristematic cells were observed under compound microscope (45X) and taken the photographs to study the mitotic index and chromosomal anomalies. Each treatment was performed in triplicates.

RESULT AND DISCUSSION

- The PXRD pattern of ZnONPs revealed the average crystallite size was 23.75 nm
- The absorption spectrum showed maximum optical absorption band at 362 nm.
- The ZnONPs are partially spherical and are agglomerates of nanocrystallites with irregularity
- Furthermore, the EDX profile of ZnONPs confirmed the presence of Zn and O elements

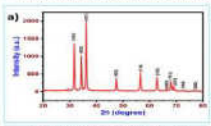


Fig. 1 PXRD patterns of ZnONPs

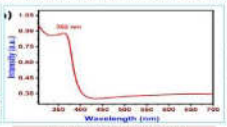


Fig. 2 UV spectrum of ZnONPs

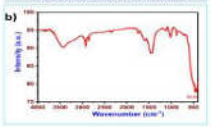


Fig. 3 FTIR Spectrum of ZnONPs

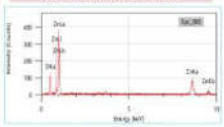


Fig. 4 EDX profile of ZnONPs

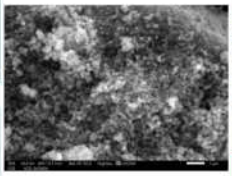


Fig. 5 SEM image ZnONPs

Acknowledgement: The present study was conducted under the financial assistance of **DBT-STAR COLLEGE SCHEME** (Project Registration Number: **HRD-11011/11/2022-HRD-DBT**), Department of Biotechnology, Government of India We greatly acknowledge the Research and Development Cell (RDC), Jaysingpur College Jaysingpur for their support.

Table 1- Cytological effect of synthesized ZnONPs on dividing cells of *A. sativum* at 24h exposure

Treatments	Total no. of cells examined	No. of dividing Cells	No. of non-dividing cells	P (%)	M (%)	A (%)	T (%)	MI (%)	CA (%)
Control	3759	395	3364	67.59±10.1	12.91±4.6	05.82±3.9	13.67±06.69	10.51±4.53	-
25 ppm	2021	252	1769	56.80±04.3	15.80±2.1	09.90±4.4	17.51±06.38	12.24±1.84	00.18±0.02
50 ppm	1558	172	1386	51.72±10.9	16.17±8.1	11.90±6.0	20.21±18.19	11.04±2.18	01.02±0.09
75 ppm	1553	175	1378	48.57±11.2	20.00±2.9	08.00±2.1	23.43±07.31	11.27±1.98	03.28±0.12
100 ppm	1797	147	1650	45.58±7.24	14.29±5.1	06.12±5.4	34.01±11.03	08.18±2.22	04.12±0.19

- The cytotoxic effect of ZnONPs on *A. sativum* root tip cells were studies with four different concentrations (25, 20, 75, and 100 ppm).
- The chromosomal aberrations were not observed in the control (untreated root tips) and the mitotic index (MI) value was 10.51±4.53%. With increasing concentration of the ZnONPs decrease in the mitotic index was noticed (12.24±1.84% to 8.18±2.22%).

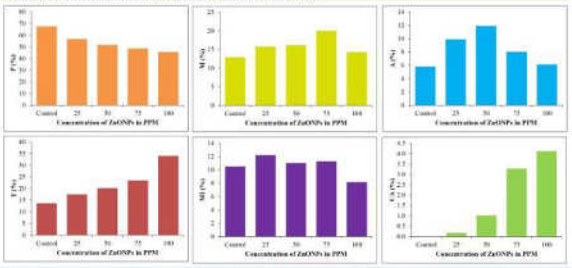


Fig. 6 The mitotic index (MI), Chromosomal aberrations (CAs), and mitotic phases- Prophase (P), Metaphase (M), Anaphase (A) and Telophase (T) in root tip cells of *A. sativum*, scored at different concentrations of ZnONPs

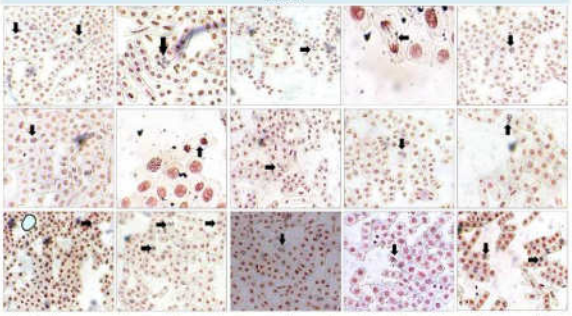


Fig. 7: Chromosomal abnormalities and chromosome damage in meristimetic root cells of *A. sativum*: Sticky anaphase; Anaphase laggards; Abnormal metaphase & anaphase; Disturbed anaphase and metaphase

CONCLUSION

- This green synthesis method could prove better substitute for physical or chemical method for synthesis of ZnONPs
- Cytological effects including the chromosomal aberrations were studied in detail for the treated cells as well as control. Furthermore, the chromosome anomalies like chromosome bridge, disturbed metaphase were observed in the treatment of higher concentration ZnONPs.
- The present results clearly suggest that, ZnONPs show cytotoxic effect at higher concentration; however at lower concentration it promotes cell division.

Dr. S. D. Umdale
Departmental Coordinator
DBT-Star College Scheme

Dr. S. R. Sabale
Coordinator
DBT-Star College Scheme

Prof. Dr. (Mrs.) M. V. Kale
Vice-principal & Head
Department of Botany

Dr. S. A. Maniare
Principal
Jaysingpur College Jaysingpur

Anekant Education Society's
JAYSINGPUR COLLEGE, JAYSINGPUR
Department of Botany
Under the aegis of
DBT STAR COLLEGE SCHEME

ACTIVITY REPORT

Year:	**2024-25**
Name of the Activity:	Participation in **Two-day National Conference on "Sustainable Development and Scientific Synergies for the Future" (SDSSF 2025)**
Date:	21st – 22nd February, 2025
Venue:	**Yashwantrao Chavan Warana Mahavidyalaya, Warananagar, Kolhapur**
Co-ordinator:	Dr. Suraj D. Umdale
Financial Support	DBT-STAR COLLEGE SCHEME
No. of Participants	**2 F (1 Staff)+ 0M (1 Staff)=3 (1 Staff)**
Nature: (e.g. Academic, cultural, sports etc)	**Extracurricular Activity**
Objectives of the Activity	• To present their own research findings • Gain exposure to the latest research • To built research network with other scholars
Short Report (in English)	The nine students of B. Sc. 3 (Botany) have been participated and presented the research poster in the international conference. The students have prepared the research posters on the project carried by students during academic year 2024-25.
Outcome/Remark	• The students have learnt the effective communication with wider audience in the conference • They have received the knowledge of new research directions • The presentations skills and confidence of student participants have been improved. • They got exposure to for future research collaborations, and a boost to their academic and professional profile

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DBT-Star College Scheme

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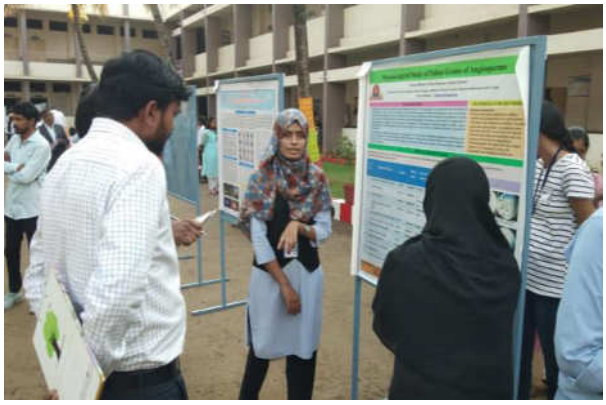
Vice-principal & Head
Department of Botany

Dr. S. A. Maniare
Principal
Jaysingpur College Jaysingpur

STUDENT PARTICIPATION IN INTERNATIONAL CONFERENCE

3) Two-day National Conference on "Sustainable Development and Scientific Synergies for the Future" (SDSSF 2025) on 21st and 22nd February, 2025 organized by Yashwantrao Chavan Warana Mahavidyalaya, Warananagar, Kolhapur

Sr. No.	Name of Student	Tile of Research Poster	Class
1	Miss. Ayesha Shakeel Mullani	Morphological study of pollen grains of Angiosperms	B. Sc. III
2	Miss. Taslim Yasin Mujawar		
3	Mr. C. R. Chivate (Asst. Prof, Botany Department)		



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Effect Of Salt Stress On Morphological And Physiological Characters Of Different Rice Landraces (*Oryza Sativa* L.) From Shirala Tehsil

[1,2]Shweta Magdum, [1]Sourabh Chavan, [1]Prerana Bhat, [1]Shreya Kamble, [1]Sadhana Kadam and [2]Shivram Khadke

[1] Department of Botany, Jaysingpur College Jaysingpur (Affiliated to Shivaji University Kolhapur) Maharashtra - 416101, India

[2]Department of Botany, Smt. Kasturbai Walchand College, Sangli, (Affiliated to Shivaji University Kolhapur) Maharashtra - 416101, India

Abstract: Abiotic stresses such drought, temperature, salinity, metal toxicity, and herbicides are common for plants and can all have an impact on crop yields. Salinity is one of the severe environmental restrictions that have a negative impact on crop loss and productivity globally among all abiotic stresses. In order to produce rice with acceptable characteristics, the landraces of rice are crucial for providing advantageous qualities. These are crucial genetic resources for plant breeding because they fall somewhere between wild relatives and cultivars. The necessity of producing and improving salt-tolerant crops, especially rice, has grown in importance in recent years. The response of the landraces Jondhala, Masad, and Wandar of *Oryza sativa* L. to NaCl at varying salinity levels (0, 50, 100, 150, 200, and 250 mM) was examined with a focus on early seedling stage and seed germination. High salinity reduced germination percentage of seeds and low salinity concentration showed higher germination percentage. The lower concentration increased biomass and seedling height as compare to high concentration in all three rice landraces. Results showed that 50mM and 100mM NaCl in Jondhala and Wandar enhanced the root growth with more roots developed at this salinity. 50mM, 150 mM NaCl is effective for root length in Masad. Abnormal seed germination was found in higher salt concentration due to inhibition of root growth. This study proposes that degree of tolerance of rice landraces to NaCl from morphological result. This study might be useful for further research of salinity effect on growth and physiological processes at advanced stage of these all landraces growth.

Index Terms **-** Biomass, Germination, Stress, Rice landraces, Salinity, Shirala Tehsil.

I. INTRODUCTION

Rice (Oryza sativa L.) is one of the most cultivated cereal crop and important staple food all over the world. China was the origin of rice cultivation thousands of years ago, and the practice gradually extended throughout Asia and eventually the rest of the world. With around 640 million tons produced there, or 90% of the world's total, the Asian continent is the primary producer of rice.

India is one of the world's largest producers of rice, grown mostly in the eastern and southern parts of the country. After the spread of rice cultivation in Indian subcontinent, rice became a staple food in the region. Rice production is an important part of Indian economy.

Maharashtra state contributes only 2.8% rice production in India. In Maharashtra, Konkan is well known for rice production. Shirala Tehsil of Sangli district is hotspot of rice cultivation. Shirala Tehsil is located at hilly region of Sahyadri ranges in Sangli district. About 45 rice landraces are cultivated in different localities of Shirala Tehsil. Economy of farmers in Shirala Tehsil is depends on rice cultivation in that region.

One of the most significant environmental stresses affecting plant growth and development is salt stress. Due to their sessile nature, plants must evolve appropriate adaptations to high salinity settings. Salt stress can lead to harmful sodium buildup and a rise in intracellular osmotic pressure. Additionally, it exhibits physiological and metabolic alterations in the way that seeds germinate, photosynthesis, and growth. Various rice landraces react to NaCl concentrations in various ways. Low osmotic potential caused by high soil salinity prevents seeds from germinating.

The different salt concentrations have an impact on the germination and growth of the landraces of Jondhala, Masad, and Wander rice. The landraces selected for the project came from the Shirala Tehsil in the Sangli District of Maharashtra, which is renowned for its rice cultivation and has a long history of producing a wide range of indigenous varieties. While some landraces of rice have a positive effect on crop output, others have the opposite effect. Numerous studies have been conducted to assess the salt tolerance of various rice varieties (Hakim et al., 2010; Jamil et al., 2012). The research of the seed response to different salts is truly important since the effects of different salt types on Oryza sativa L. seed germination and early seedling growth are not fully understood. In recent years, the importance of creating and enhancing salt-tolerant crops—particularly rice—has increased. To ensure food security for the growing population, much research needs to be focused on understanding how this important crop responds to environmental stress, especially salt (Amirjani, 2010). Additionally, it is usually costly and time-consuming to reclaim land that has been affected by salt (Tsegay & Gebreslassie, 2014). This circumstance has led some scientists to become interested in developing salt-tolerant rice cultivars in an effort to prevent unnecessary losses in agriculture while also reducing the problems related to food scarcity (Hakim et al., 2014). Therefore, expanding agriculture into areas affected by salt requires developing high-yielding, salt-tolerant rice cultivars.

II. RESEARCH METHODOLOGY

2.1 Plant materials and seed sterilization

We gathered Wandar, Jondhala, and Masad seeds from Shirala Tehsil farmers. With a few minor adjustments, seed sterilization was carried out in accordance with the study of Htwe et al. (2011). After choosing seeds that were robust, healthy, and consistent in size, they were surface sterilized for 30 seconds using a 70% ethanol solution. Fungicide was used to wash the seeds for an additional twenty minutes. After being carefully cleaned five times with autoclaved distilled water, the seeds were allowed to air dry on tissue paper.

2.2 Experimental design and salinity treatments

Ten sterile seeds were spread out and allowed to develop on Whatman No. 1 filter paper in a sterile Petri dish in order to examine the impact of salt on seed germination. Salt solutions with concentrations of 0 (deionized water) as a reference, 50 mM, 100 mM, 150 mM, 200 mM, and 250 mM, depending on the kind of salt, were used to wet each filter paper (Khan et al., 1997). Each Petri dish was filled with 5 ml of the corresponding concentrations of each type of salt. For two weeks, the treatments were kept in a growth chamber at a room temperature of 25 ± 1°C and 12 hours of sunshine (Hakim et al., 2010). To make sure the results were consistent, the experiment was conducted three times.

2.3 Observation and data collection

Up to fourteen days, the number of seeds that sprouted and germinated was counted and observed every day. According to M. S. Rahman et al. (2001), seeds that have developed the capacity to form at least one discernible plumule or radicle are referred to be sprouted seeds. When a radicle of at least 2 mm emerged from the seed coat, the seed was said to have germinated. Following the administration of the medication for fourteen days, parameters were measured and computed. According to Tsegay and Gebreslassie (2014), the experiment's metrics were water absorption %, germination percentage, germination index, relative injury rate, seed vigor, mean germination time, biomass, and salt tolerance. Three seedlings were chosen at random for each treatment of each type of salt in order to measure the morphological traits of the seedlings, such as height, shoot length, root length, and leaf length (Zhang et al., 2014). Using a dissecting microscope, the morphological traits of the leaves and roots for each treatment were noted at the early seedling stage.

2.3.1 Measurement of Water Uptake Percentage

The maximum, minimum, standard deviation, mean, and normally distributed values for each of the study's variables were determined using descriptive statistics. Data with a normal distribution demonstrates how sensitive the variables are to cyclical fluctuations and conjecture. When data is not regularly distributed, it indicates that it is susceptible to cyclical fluctuations and speculations, which can lead to arbitrage opportunities and provide investors with the opportunity to make more than the typical profit. However, the APT makes the premise that investors can only make regular profits and that there shouldn't be arbitrage in the market. Data normality is tested using the Jarque-Bera test.

2.3.2 Measurement of Germination Percentage (GP)

In research, germination percentage—the actual proportion of seeds in a sample that sprout in an experiment—is crucial for comparing the quality of seed collections (FAO, 1983). Using (Kandil et al., 2012), this parameter was calculated.

$$GP = \frac{\text{Number of germinated seeds}}{\text{Total number of seeds sown}} \times 100$$

2.3.3 Relative Injury Rate (RIR)

Relative injury rate is the rate of injured or damaged seeds as compared to the healthy germinated seeds.

$$\text{Relative Injury Rate} = \frac{\text{GP in control} - \text{GP in salt treatment seeds}}{\text{GP in Control}}$$

2.3.4 Survival Percentage

Following seed germination, some of the plantlets that have sprouted suffer harm from outside sources, which leads to their eventual demise. The number of plantlets that remain after damage is used to determine the survival percentage.

2.3.5 Measurement of Seed vigour

The entire collection of seed characteristics that serves as a gauge of seed activity and performance during germination and seedling growth is known as seed vigor. It also shows that the seed's capacity to perform all physiological functions has diminished. The Abdul-Baki and Anderson (1973) approach was used to calculate the value of seed vigor.

$$\text{Seed vigour} = \frac{\text{Length of hypocotyl+length of radical}}{100} \times \text{GP}$$

2.3.6 Measurement of Salt Tolerance (ST)

Salt tolerance can be calculated by referring to (Tsegay and Gebreslassie, 2014).

$$\text{Salt Tolerance} = \frac{\text{Seedling dry weight of salt treatment}}{\text{Seedling dry weight in control}} \times 100$$

2.3.7 Measurement of Biomass

To determine biomass, seedlings must be weighed both fresh and dried before and after treatments. On the day of harvest (Day 15), the fresh weight of the seedlings in each treatment was measured. For weight standardization, fresh seedling samples were then dried for 48 hours at 78°C. The dry weight of the seedlings was then determined by weighing them once again. (Carpycy et al., 2009).

2.3.8 Proline estimation

The dried plant material was broken down to produce sulphosalicylic acid. A crushed plant sample was transferred to a centrifuge tube, and sulphosalicylic acid was added to bring the amount down to 10 ml. The material was centrifuged for ten minutes at 5000 RPM. The next step was using 1 milliliter of the centrifuged sample's supernatant. To the supernatant, two milliliters of glacial acetic acid and ninhydrin reagent were added. The sample was chilled in an ice bath after being cooked for an hour in a water bath. Add 4 milliliters of toluene to the sample. To separate the two layers, the test tube was shaken vigorously and let to rest. The top layer was removed for proline spectrophotometric measurement at a wavelength of 520 nm.

III. RESULTS AND DISCUSSION

3.1 Water Uptake Percentage:

In Wandar 250mM concentration shows high water uptake percentage than other concentrations in Wandar. In Masad 250mM concentration shows high water uptake % than other concentrations in Masad. In Jondhala 150mM concentrations shows high water uptake % than other concentrations in Jondhala.

Table:1- Water Uptake Percentage of rice landraces at different salt concentrations

Landraces	Control	50mM	100mM	150mM	200mM	250mM
Wandar	22.89%	23.61%	18.65%	19.25%	24.67%	46.74%
Masad	22.13%	23.58%	25.65%	22.68%	21.76%	27.30%
Jondhala	18.50%	19.70%	15.67%	23.90%	22.82%	16.00%

3.2 Germination percentage:

In Wandar germination % is 100% in control, 50mM, 100mM concentrations, while germination % is 90% in 150mM, 200mM and 250mM concentrations. In Masad germination % is 60% in control, 50mM, 100mM and 250mM while in 150mM it is 20% and in 200mM it is 50%. In jondhala germination % is 100% in control and 200mM concentrations while it is 90% in 50mM and 100mM concentrations and 80% in 150mM concentrations.

Table:2- Germination percentage of rice landraces at different salt concentrations

Landraces	Control	50mM	100mM	150mM	200mM	250mM
Wandar	100%	100%	100%	90%	90%	90%
Masad	60%	60%	60%	20%	50%	60%
Jondhala	100%	90%	90%	80%	100%	80%

3.2 Relative Injury Rate:

In Wander injury rate of 50mM and 100mM concentrations is 0% while the injury rate of 150mM, 200mM and 250mM concentrations is 0.1%. The injury rate in Masad 50mM, 100mM and 250mM is 0% while in 150mM is 0.66% and 200mM is 0.16%. Injury rate in Jondhala 50mM and 100mM concentrations is 0.1%, while in 150mM and 250mM concentrations is 0.2% and 200mM concentration has 0%.

Table:1- Water Uptake Percentage of rice landraces at different salt concentrations

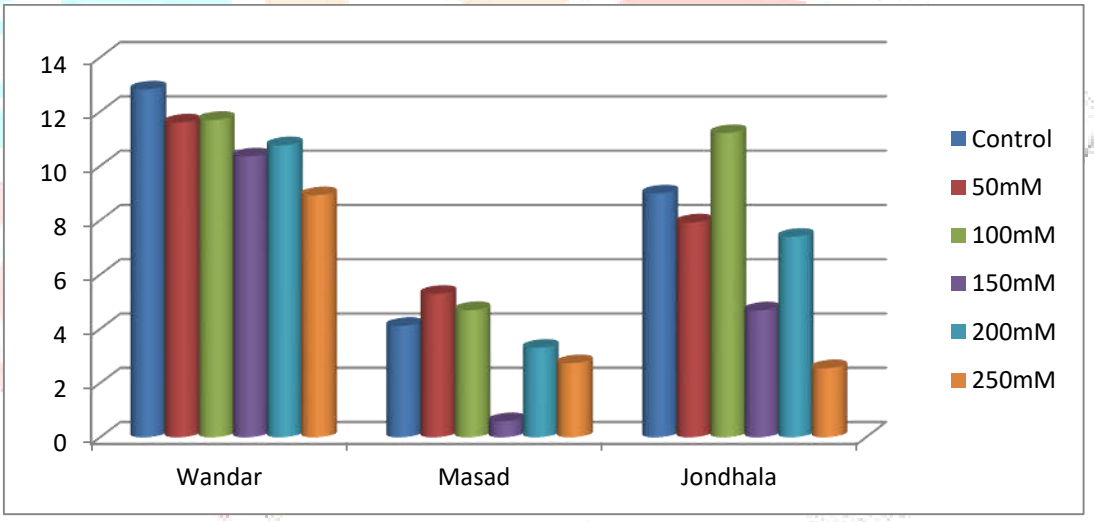
Landraces	Control	50mM	100mM	150mM	200mM	250mM
Wandar	-	0%	0%	0.1%	0.1%	0.1%
Masad	-	0%	0%	0.66%	0.16	0%
Jondhala	-	0.1%	0.1%	0.2%	0%	0.2%

3.3 Seed Vigor:

In Wandar seed vigor of control is more than all other concentrations and the seed vigor of 250mM concentration is less than all concentrations. In Masad Seed vigor of 50mM is more than all other concentrations and the seed vigor of 150mM is less than that of all the concentrations. In Jondhala seed vigor of 100mM concentration is more than all other concentrations, while the seed vigor of 250mM is less than all other concentrations.

Table:3- Seed Vigor of rice landraces at different salt concentrations

Landraces	Control	50mM	100mM	150mM	200mM	250mM
Wandar	12.82	11.6	11.7	10.35	10.76	8.92
Masad	4.11	5.29	4.69	0.59	3.30	2.73
Jondhala	8.99	7.92	11.21	4.68	7.39	2.55



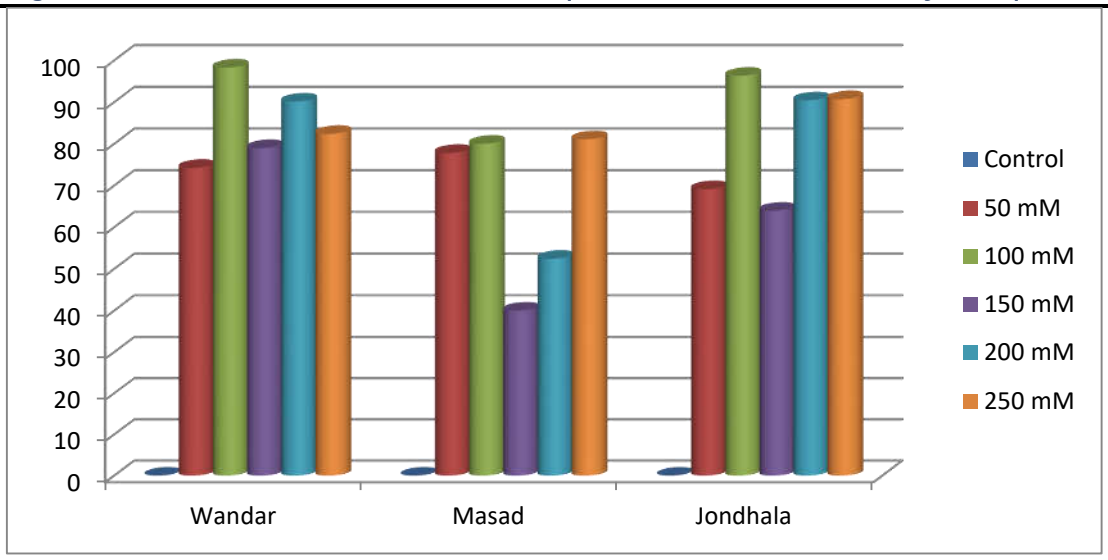
Seed Vigor

3.4 Salt Tolerance:

In Wandar Salt tolerance is more in 100mM concentration and less in 50mM concentration. In Masad Salt tolerance is more in 250mM concentration and less in 150mM concentration. In Jondhala Salt tolerance is more in 250mM concentration and less in 150mM concentration.

Table:4- Salt Tolerance of rice landraces at different salt concentrations

Landraces	Control	50 mM	100 mM	150 mM	200 mM	250 mM
Wandar	-	74.24	98.28	78.96	90.12	82.40
Masad	-	77.83	80	40	52.43	81.08
Jondhala	-	69.11	96.32	63.97	90.44	90.73



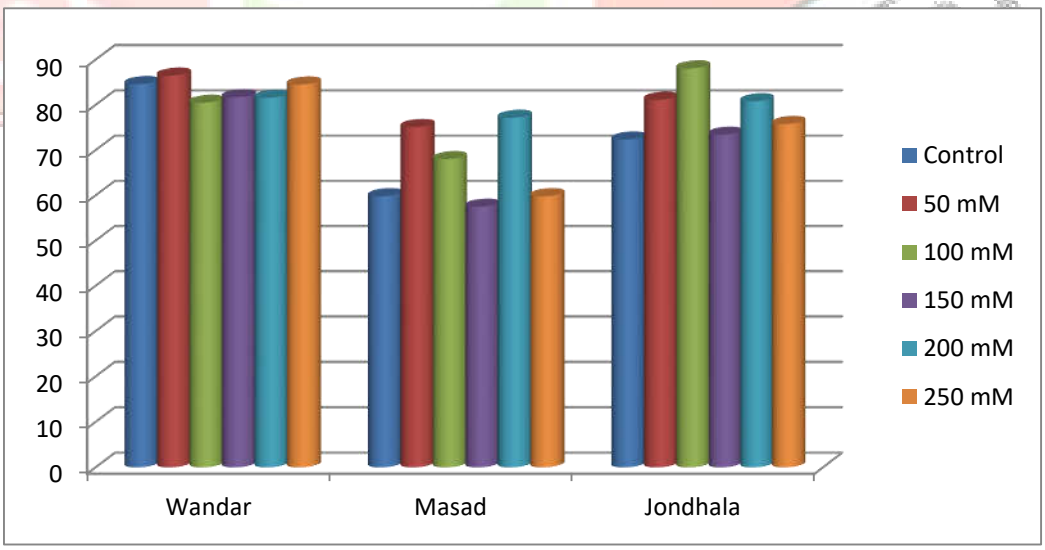
Salt Tolerance

3.5 Biomass (mg):

In Wandar Measurement of biomass is more in 50mM concentration and less in 100mM concentration. In Masad measurement of biomass is more in 200mM concentration and less in 150mM concentration. In Jondhala measurement of biomass is more in 100mM concentration and less in control.

Table:5- Biomass of rice landraces at different salt concentrations

Landraces	Control	50 mM	100 mM	150 mM	200 mM	250 mM
Wandar	84.58	86.43	80.45	81.67	81.53	84.49
Masad	59.78	75.08	67.96	57.47	77.12	59.78
Jondhala	72.30	81.12	88.04	73.39	80.75	75.74

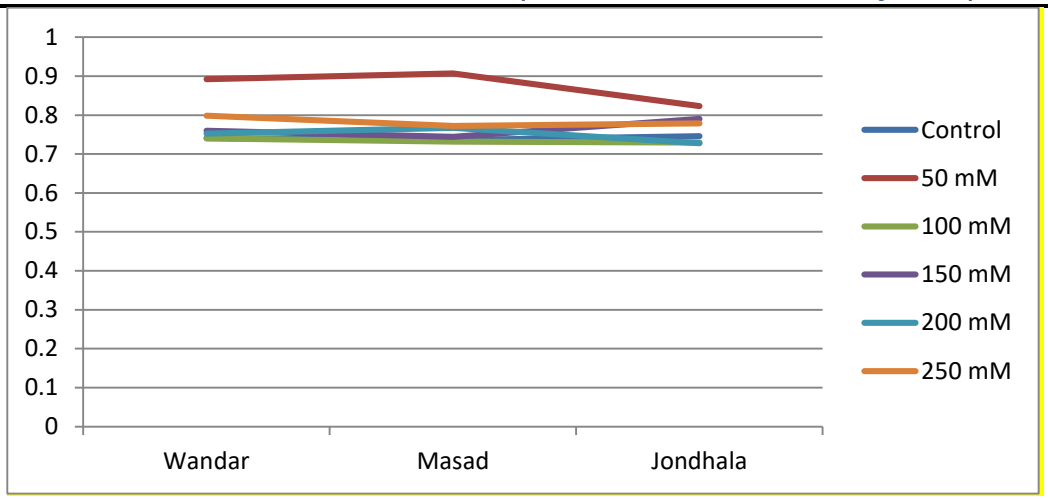


Biomass

3.6 Proline content (mg):

Table:6- Water Proline content (mg) of rice landraces at different salt concentrations

Landraces	Control	50 mM	100 mM	150 mM	200 mM	250 mM
Wandar	0.741	0.892	0.740	0.760	0.752	0.798
Masad	0.736	0.907	0.732	0.744	0.767	0.772
Jondhala	0.746	0.823	0.729	0.790	0.728	0.779



Proline content

The amount of plant stress is directly indicated by the proline concentration. The rice seedlings of Wandar, Masad and Jondhala landraces treated with differetnt salt concentration has the highest proline content at 50 mM and 250 mM salt concentration. Whereas the seedling treated with 100mM salt concentration has the lowest proline content.

IV. CONCLUSION

According to the study, three rice landraces treated with 50 mM and 100 mM NaCl concentrations show enhanced germination, survival rates, and seed vigor, although greater concentrations often result in lower germination percentages. Across the three landraces, lower concentrations of NaCl often perform better at encouraging seedling development and vigor. Furthermore, different levels of plant stress are indicated by proline concentration, with lower proline levels being linked to more successful therapies. Here, the Jondhala, Masad, and Wandar landraces of rice have decreased proline content at a concentration of 100 mM NaCl. Thus, among all the treatments, a concentration of 100 mM NaCl is the most effective.

V. ACKNOWLEDGMENT

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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Effect Of Mycorrhiza Fungus (*Glomus Fasciculata*) On The Morpho -Physiology Of The Plant Species – Phaseolus Vulgaris.

[1]Sourabh Chavan, [1,2]Shweta Magdum, [1]Asad Mujawar, [1]Tammana Mujawar, [1].Shital Kavade

[1] Department of Botany, Jaysingpur College Jaysingpur (Affiliated to Shivaji University Kolhapur) Maharashtra - 416101, India

[2]Department of Botany, Smt. Kasturbai Walchand College, Sangli, (Affiliated to Shivaji University Kolhapur) Maharashtra - 416101, India

Abstract: The study is aims to investigate the impact of Mycorrhiza fungus (*Glomus fasciculata*) on seed germination, sustainability, flowering time, seed vigor, seedling length, stress tolerance, biomass content, and chlorophyll content in the plant Phaseolus vulgaris. We selected this particular plant owing to its short life cycle.

The endomycorrhiza species considered for this experiment was Glomus fasciculata. "Mycorrhiza" translates to "fungal root" from Greek. The main function of mycorrhiza, particularly present in roots, is to transport nutrients and minerals from fungus to the host plant. mycorrhiza is regarded as a Organic fertilizer. In addition to improving nutrient absorption, plant resilience, and plant wellbeing, mycorrhiza also regulate hormones, boost antioxidant levels, maintain soil health, promote biodiversity, use less water and fertilizer, and increase transplant success rates. After being pre-soaked in water for five hours, the Phaseolus vulgaris seeds were treated with varying grades of mycorrhizal concentrations (30%, 60%, and 90%) for four hours. The seeds were then planted in the field, and measurements were made for a number of parameters in comparison with the control. According to the study, significant seed germination was observed at 30% mycorrhiza concentration, and as the concentration of mycorrhiza grows, the percentage of seeds germination falls. When compared to control and other concentrations, the Mycorrhiza fungus exhibited an encouraging impact on seed vigor, plant biomass, stress tolerance, early flowering, and overall plant growth at 30% mycorrhizal concentration. The plant's chlorophyll content significantly increased after being infected with 30% mycorrhiza

Index Terms - Mycorrhiza, Endomycorrhiza, *Glomus fasciculata*, *Phaseolus vulgaris*, Seed vigor, Biomass, antioxidant.

I. INTRODUCTION

Mycorrhiza is a mutually beneficial relationship between certain fungus and the roots of several plant species. Mycorrhiza is a symbiotic association between plant roots and the fungi that live in them. "Mycorrhiza" means "fungal root" in Greek. Albert Bernhard Frank, a German botanist and scientist, conducted the first research on mycorrhiza in (1880). Frank was the first to explain the mutualistic relationship between fungi and trees and coined the term "mycorrhiza". The phrase is derived from the Greek words "mykes" and "rhiza," which translate as "fungus" and "roots," respectively. Frank's initial research cantered on the mutually beneficial relationship and interactions of plant roots and fungal

hyphae. Hyphae are fungal extensions that spread to form the mycelium network. Mycorrhiza is commonly found in roots, and its principal role is to transfer minerals and nutrients from fungus to plant. Mycorrhiza is made up of a vast network of strands. Mycorrhiza removes harmful fungi, retains soil moisture, and promotes rapid root growth. Mycorrhiza is regarded as a "organic fertilizer".

Mycorrhiza influences plant growth in a variety of ways, including improving nutrient absorption, plant resilience, plant wellbeing, boosting antioxidant levels, regulating hormones, maintaining soil health, promoting biodiversity, reducing water and fertilizer usage, and increasing transplant success rates. There are two basic categories of mycorrhiza: 1) Endomycorrhiza 2) Ectomycorrhiza. Endomycorrhiza, on the other hand, tends to penetrate deeper into cortical cells. Ectomycorrhiza, as the name implies, do not penetrate far into the plant [particularly the cortical cells].

Glomus fasciculata is the designated mycorrhiza species for this experiment. This mycorrhiza was chosen-

1] For its non-specificity with host plant.

2] Increases nutrient intake capacity of the plant.

3] function as a biofertilizer.

Phaseolus vulgaris was chosen as the plant for this experiment. The reason for choosing this plant is-

1] Its short life cycle.

2] Dietary foods

3] Requires least maintenance

II. RESEARCH METHODOLOGY :

2.1 Plant materials and seed sterilization

The healthy, vigorous and uniform sized seeds of Phaseolus vulgaris were selected for this experiment.

2.2 Experimental design and salinity treatments

The seeds of the species Phaseolus vulgaris were treated with different grades of Mycorrhizal concentrations 30%,60% and 90%. The treatment was carried out by pre-soaking followed by soaking of seeds in selected Mycorrhizal concentrations. The seeds were pre-soaked for 5 hrs. in distilled water which was followed by soaking in Mycorrhizal grades for 5 hr. For the comparative study control seeds are used which was pre-soaked for 5 hr. followed by soaking in distilled water for 5 hr. in order to compare the effect of Endomycorrhiza (Glomus fasciculata) on overall plant growth .10 seeds were sowed and allowed to grow in the pots. The treatments were placed on the field for ten weeks.

2.3 Observation and data collection

Daily observation and counting of the number of seeds which were germinated were done on fifth day, and germination percentage was calculated. After 70 days of treatment application, measurement of parameters was done and calculated. The parameters studied in the experiment including germination percentage, flowering time, Seed vigour, Seedling length, Stress tolerance, Chlorophyll amount. For each treatment, five plantlets were randomly selected for measurement of morphological characteristics, including plant height, length of shoot, length of root. All morphological characteristics was observed and recorded.

2.4 Measurement of Germination Percentage (GP)

Germination percentage is the actual percentage of the total number of seeds in a sample that germinate out of total in an experiment.

$$GP = \frac{\text{Number of germinated seeds}}{\text{Total number of seeds sown}} \times 100$$

2.5 Survival Percentage

Following seed germination, some of the plantlets that have sprouted suffer harm from outside sources, which leads to their eventual demise. The number of plantlets that remain after damage is used to determine the survival percentage.

2.6 Measurement of Seed vigor

Seed vigor is defined as the whole set of seed qualities that serve as an indicator of seed activity and performance during germination and seedling development. Furthermore, it indicates the seed's reduced ability to complete all physiological operations. The value of plant vigor was determined using the method described by Abdul-Baki and Anderson (1973).

$$\text{Seed vigour} = \frac{\text{Length of hypocotyl+length of radical}}{100} \times GP$$

2.7 Measurement of Biomass

Fresh weight and dry weight of seedling before and after treatments are necessary for determination of biomass. Fresh weight of seedlings in each treatment was obtained on the day of harvest (Day 70). Next, fresh seedling samples were dried at 78°C for 48 h for weight standardization. Seedlings were then weighed again to obtain the dry weight.

2.8 Proline estimation

The plant sample crushed into sulphosalicylic acid. Crushed plant sample was taken to the centrifuge tube and adjusted the level to the 10 ml with sulphosalicylic acid. That sample was centrifuged at 5000 RPM for 10 minutes. 1 ml of supernatant from the centrifuged sample was used for the further procedure. 2 ml ninhydrin reagent and 2 ml glacial acetic acid added to the supernatant. That sample was boiled into the water bath for 1 hour and cooled the sample into the ice bath. 4ml toluene added to the sample. The test tube was Shaked well and allowed to rest for separate the two layers. The upper layer was taken for spectrophotometric analysis of proline at 520 nm wavelength.

2.9 Chlorophyll estimation-

The plant sample from different grades were crushed into 80%Acetone. Crushed plant sample was taken to the centrifuge tube, level of the tube adjusted to 10 ml with Acetone and sample was centrifuged at 3000 RPM for 10 minutes. Supernatant solution was transferred into a 25 ml volumetric flask and made up to 25 ml using 80% Acetone. Colour intensity of green pigment is read at 645 nm 663nm, 652nm for Chlorophyll a, b, and total chlorophyll content respectively using Spectrophotometer.

Chlorophyll a = 12.7 (A at 663) - 2.69 (A at 645nm) x V/1000 x W

Chlorophyll b = 22.9 (A at 645) - 4.69 (A at 663nm) x V/1000 x W

$$\text{Total Chlorophyll} = \frac{A\ at\ 652}{345} \text{ X } 1000V/1000 \text{ x } W$$

Where, A – Absorbance,

V – Final volume the supernatant (25 ml)

W- Fresh weight of the sample taken in gram (0.25 g)

III. RESULTS AND DISCUSSION

3.1 Morphological characteristics:

Table:1- Morphological characteristics at different Mycorrhizal concentration.

Sr.no.	Objective	Treatment concentrations			
		Control	30 % Mycorrhiza	60 % Mycorrhiza	90 % Mycorrhiza
1.	Germination Percentage	100	100	80	40
2.	Flowering Duration	48th Day	42th Day	45th Day	44th Day
3.	Pod or Fruit Length	11	12.4	12.1	12
4.	Av. Root Length	13	19	20	11
5.	Av. Shoot Length	69	112	98	65
6.	Biomass of Plant	4.729 g	13.528 g	5.950 g	3.649 g

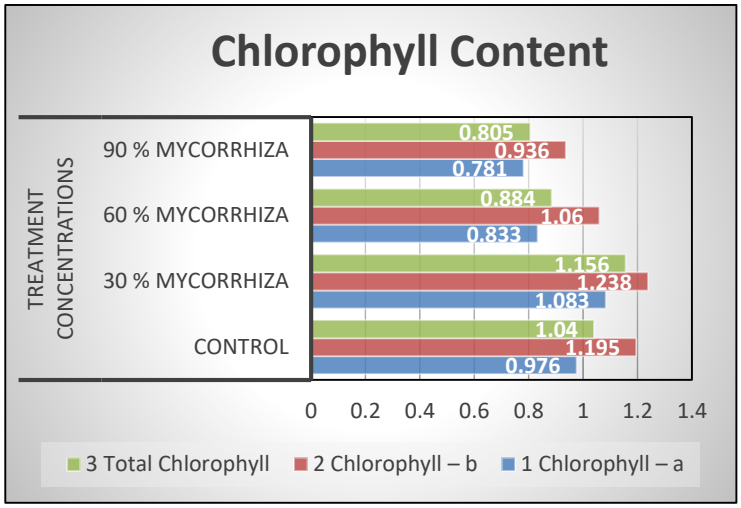
Significant seed germination was observed at 30% mycorrhiza concentration, and as the concentration of mycorrhiza grows, the percentage of seeds germination falls. When compared to control and other concentrations, the Mycorrhiza fungus exhibited an encouraging impact on plant biomass, seedling length , early flowering, and overall plant growth at 30% mycorrhizal concentration. The plant's chlorophyll content significantly increased after being infected with 30% mycorrhiza

3.2 Chlorophyll estimation :

Table:2- Chlorophyll amount estimation at different Mycorrhizal concentration.

Sr.no. 7	Chlorophyll estimation	Treatment concentrations			
		Control	30 % Mycorrhiza	60 % Mycorrhiza	90 % Mycorrhiza
1.	Chlorophyll – a	0.976	1.083	0.833	0.781
2.	Chlorophyll – b	1.195	1.238	1.060	0.936
3.	Total Chlorophyll	1.040	1.156	0.884	0.805

The amount of chlorophyll corresponds to the rate of photosynthesis , so more the amount of chlorophyll more will be the production of photosynthate and more will be the plant biomass . The plant's chlorophyll content significantly increased after being infected with 30% mycorrhiza concentration in comparison with another mycorrhizal concentrations .



Graph No.1 : Chlorophyll estimation

3.3 Seed Vigor:

Table 3: Seed vigour at different Mycorrhizal concentration

Sr.no.	Objective	Treatment concentrations			
		Control	30 % Mycorrhiza	60 % Mycorrhiza	90 % Mycorrhiza
1.	Seed vigour	82	131	70.8	30.4

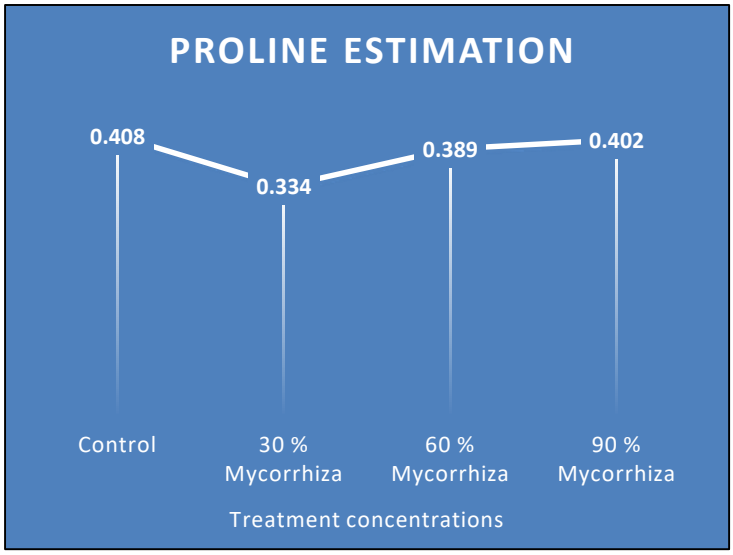
Seed vigour is defined as the whole set of seed qualities that serve as an indicator of seed activity and performance during germination and seedling development. 30 % Mycorrhiza concentration exhibited great increment in seedling length in comparison with another treatment.

3.4 Proline content (mg):

Table:4- Proline content (mg) of different concentration

Sr.no.	Objective	Treatment concentrations			
		Control	30 % Mycorrhiza	60 % Mycorrhiza	90 % Mycorrhiza
1.	Proline estimation	0.408	0.334	0.389	0.402

Proline amino acid accumulates during the stress conditions, playing a crucial role in osmotic regulation, protecting cellular structure and enzymes, and aiding in stress recovery by scavenging reactive oxygen species .Amount of Proline corresponds to the amount of stress induced in the plant . In comparison with all the treatments , the plant exhibited 0.334 amount of proline in plant which directly depicts least amount of stress in plant.



Graph No.2 Proline estimation

IV. CONCLUSION

Significant seed germination was observed at 30% mycorrhiza concentration, and as the concentration of mycorrhiza grows, the percentage of seeds germination falls. When compared to control and other concentrations, the VAM a fungus exhibited an encouraging impact on seed vigour, plant biomass, stress tolerance, early flowering, and overall plant growth.

V. ACKNOWLEDGMENT

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Participation in National/ international Conferences

1) An International Conference on Advancement and Emerging Trends in Science (ICAETS-2025)

2) International Conference on Agriculture, Environment, and Life Sciences (ICAELS-2025)

3) National Conference on Sustainable Development and Scientific Synergies for the Future (SDSSF 2025)

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Botanical Excursion of B. Sc. I

Seminar Competition

Botanical Excursion of B. Sc. III

Visit to national Research Institutes/Laboratories

Workshop on NET/SET/GATE Guidance

Seed Exhibition & Seed Distribution Ceremony

Celebration of National Science Day