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17 PARTNERSHIPS FOR THE GOALS

Memorandum of Understanding (MoU) between Chaitanya (Deemed to be University) and Noble Education and Research Foundation (NERF), Hyderabad, focusing on the development of higher education, educational access, research, skill development and community empowerment in rural, educationally backward and underserved areas of Telangana.

One important SDG clarification: SDG Target 17.2.1 concerns official development assistance. For an institutional partnership between a university and an NGO, SDG Target 17.17 (effective public, public-private and civil society partnerships) is more directly relevant. SDG 4 (Quality Education) and SDG 10 (Reduced Inequalities) can also support the proposed activities.

AND

NOBLE EDUCATION AND RESEARCH FOUNDATION (NERF)

A registered Non-Governmental Organisation, having its office at Street No. 6, Domalguda, Hyderabad – 500029, Telangana, India, represented by its authorised signatory, hereinafter referred to as the

"SECOND PARTY" or "FOUNDATION".

The University and the Foundation shall hereinafter individually be referred to as a "Party" and collectively as the “Parties".

PREAMBLE

WHEREAS, Chaitanya (Deemed to be University) is committed to promoting

higher education, academic excellence, research, innovation, skill development and inclusive educational opportunities for the advancement of society.

WHEREAS, Noble Education and Research Foundation (NERF) is committed to educational advancement, social development, community empowerment and the welfare of underserved sections of society.

WHEREAS, significant sections of the rural population, particularly in educationally backward, economically weaker and geographically underserved regions of Telangana, continue to face barriers in accessing quality higher education, academic guidance, technological resources and employment-oriented skills.

WHEREAS, the Parties recognise that collaborative institutional efforts are essential to bridge the rural-urban educational divide, strengthen educational opportunities and facilitate the participation of disadvantaged communities in higher education.

WHEREAS, the Parties intend to establish a sustainable institutional partnership for identifying educational needs, mobilising rural communities, facilitating access to higher education, promoting research and implementing educational development initiatives.

WHEREAS, this collaboration is conceived in furtherance of the United Nations Sustainable Development Goals, particularly:

- SDG 4 – Quality Education: Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all.

- SDG 10 – Reduced Inequalities: Reducing inequalities in access to educational and developmental opportunities.
- SDG 17 – Partnerships for the Goals: Strengthening institutional and civil-society partnerships for sustainable development, particularly Target 17.17.

NOW, THEREFORE, the Parties hereby agree to enter into this Memorandum of Understanding on the following terms and conditions.

ARTICLE 1: OBJECTIVES OF THE MOU

The principal objective of this MoU is to develop a structured and sustainable partnership between the University and the Foundation for promoting higher education in rural, educationally backward and underserved areas of Telangana.

The specific objectives shall include:

1. To identify rural villages, educationally backward regions and underserved communities requiring higher education support.
2. To create awareness regarding the importance of higher education among rural students, parents and communities.
3. To facilitate educational opportunities for economically weaker sections, rural youth, women and disadvantaged groups.
4. To promote access to undergraduate, postgraduate, doctoral and other recognised academic programmes of the University, subject to applicable eligibility and regulatory requirements.

5. To strengthen the educational ecosystem through community participation, institutional cooperation and academic outreach.
6. To encourage research, innovation, entrepreneurship, employability and skill development.
7. To promote sustainable educational development through effective university-NGO collaborationS

CHAITANYA NEWS



Prof.Kumaraswamy Gandla was attended as Keynote Speaker for the Keynote speaker andScientific committee member for the Hybrid mode of International Conference on Chemistry and Pharmaceutical Chemistry organised by ***Sciencezo Planet Society,London***



White Coat Carmony celebrated by Department of Pharmacy and Allied Health Sciences at Chaitnya Deemed to be University, Hyderabad Campus.

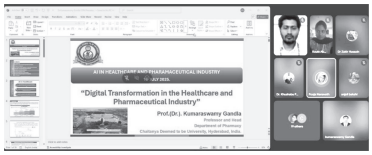


Prof.Kumaraswamy Gandla was Received FDP Certificate and he got Reviewer and Advisory board memberships from Microchemical, Brain Research, Analytical Chemistry Letters, Chemistry Africa, Scientific Reports, National bulletin Research centre, European journal of Pharmacology, Naunyn-Schmiedeberg's Archives of Pharmacology.

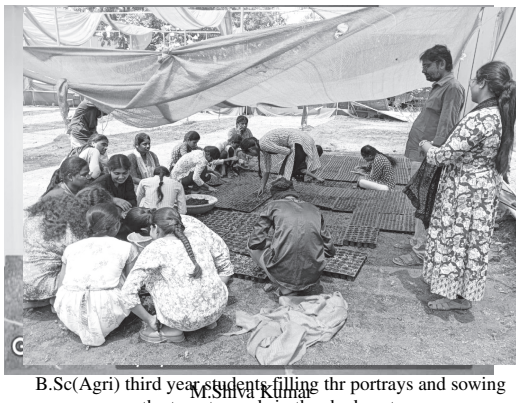




Pharmacy Research ScholarsMrs.G.Sravanthi and Ayesha Farath were presented their Research works at were presented their Ph.D topics in International Conference at NIPER ,Hyderabad. Currently they are pursuing Ph.D. under the supervision of Prof.Kumaraswamy Gandla.



Prof.G.Kumaraswamy was attended (virtually) as resources person for Faculty development programme (held on 18th July 2025) organised by Vijaya College of Pharmacy,Hyderabad.



B.Sc(Agri) third year students filling thr portrays and sowing the tomato seeds in the shade net.

M.Shiva Kumar



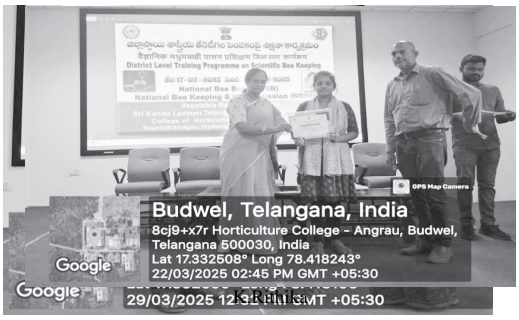
Manual weeding by the Second year B.Sc(Agri) second year students in the shade net.

P.Snehayani

- 15 of B.Sc(Agri) third year students attended 5 days training programme on beekeeping conducted by national programme on scientific bee keeping, Prof Jayshankar Agriculture university and Sri Kondalaxman Horticultural university and successfully completed the training with certificates.



P.Vijaya Sri



B.Prithi



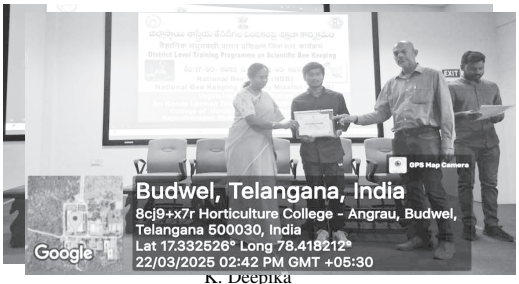
A.Sucharitha

B.Radhika



D. Navya

S.Hasmitha

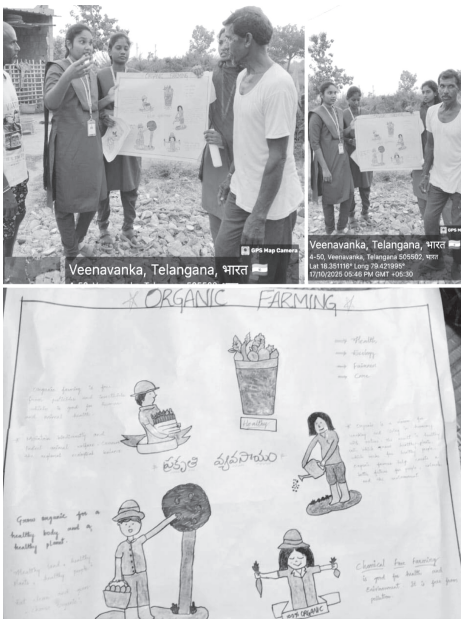


K. Deepika

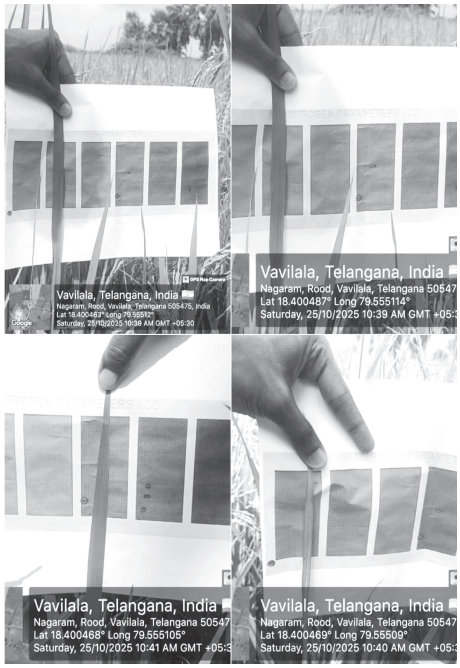
N. Shiva Rama Krishna

editor.chaitanyanews@chaitanya.edu.in

CHAITANYA NEWS



B.Sc(Agri) students as a part of RAWEP demonstrating the importance of organic farming to farmers



B.Sc(Agri) students as a part of RAWEP demonstrating the importance of usage of colour charts in paddy to farmers



B.Sc(Agri) students as a part of RAWEP demonstrating the importance of usage of yellow sticky traps to farmers



B.Sc(Agri) second year year students making ridges and furrows in the shade net.



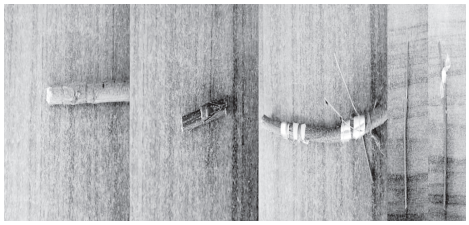
Tomato crop raised by first year B.Sc (Agri) students in the shadenet



Manual weeding in the field by third year B.Sc (Agri) students.



Maize crop grown by the B.Sc(Agri) second year students.



Different budding and grafting methods done by B.Sc(Agri) first year students



Weeding operations done by B.Sc(Agri) first year students in the shade net.







Mechanical weeding being done by fourth year B.Sc(Agri) students as a part of RAWEP

ARTICLE 2: AREAS OF COLLABORATION

The Parties shall jointly undertake the following activities:

2.1 Rural Higher Education Development

- Identification of educationally backward villages and rural communities.
- Conducting surveys to assess higher education needs and aspirations.
- Organising educational awareness campaigns and student mobilisation programmes.
- Providing information and guidance regarding recognised higher education opportunities.

2.2 Educational Access and Inclusion

- Encouraging rural students to pursue higher education.
- Facilitating awareness about scholarships and available financial assistance.
- Promoting educational participation among women and disadvantaged communities.
- Supporting educational counselling and career guidance.

2.3 Academic and Institutional Collaboration

- Organising seminars, conferences, workshops and academic awareness programmes.
- Promoting faculty-student interactions and academic mentoring.

- Encouraging research collaborations and community-oriented academic projects.
- Facilitating internships, field visits and project-based learning, wherever appropriate.

2.4 Skill Development and Employability

- Promoting digital literacy and technology-enabled learning.
- Organising entrepreneurship and self-employment awareness programmes.
- Providing career guidance and employability-oriented training.

2.5 Research and Community Development

- Undertaking research on rural educational development and social challenges.
- Preparing educational development reports and community needs assessments.
- Promoting innovation and socially relevant research.
- Encouraging student participation in community development activities.

2.6 Sustainable Development Initiatives

- Organising programmes supporting SDG 4, SDG 10 and SDG 17.
- Promoting awareness of sustainable development and responsible citizenship.

- Encouraging collaborative initiatives addressing educational inequalities.

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- Promoting faculty-student interactions and academic mentoring.
- Encouraging research collaborations and community-oriented academic projects.
- Facilitating internships, field visits and project-based learning, wherever appropriate.

2.4 Skill Development and Employability

- Conducting skill-development and vocational awareness programmes.
- Promoting digital literacy and technology-enabled learning.
- Organising entrepreneurship and self-employment awareness programmes.
- Providing career guidance and employability-oriented training.

2.5 Research and Community Development.

- Undertaking research on rural educational development and social challenges.
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- Promoting innovation and socially relevant research.
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2.6 Sustainable Development Initiatives

- Organising programmes supporting SDG 4, SDG 10 and SDG17.
- Promoting awareness of sustainable development and responsible citizenship.
- Encouraging collaborative initiatives addressing educational inequalities.

ARTICLE 3: RESPONSIBILITIES OF THE UNIVERSITY

Chaitanya (Deemed to be University) shall:

1. Provide academic guidance and institutional support for the implementation of mutually agreed programmes.
2. Identify suitable academic programmes and educational opportunities for eligible rural students.
3. Nominate faculty members and academic coordinators for collaborative activities.
4. Organise educational awareness, academic outreach and skill-development programmes.
5. Facilitate research guidance, internships and student participation in approved community projects.
6. Provide information regarding admission procedures, eligibility criteria, academic regulations and available scholarship opportunities.
7. Issue certificates for programmes conducted by the University, wherever approved under its applicable policies.

8. Monitor the academic quality and educational relevance of activities undertaken under this MoU.

ARTICLE 4: RESPONSIBILITIES OF NOBLE EDUCATION AND RESEARCH FOUNDATION

The Foundation shall:

1. Identify rural, educationally backward and underserved areas requiring higher education interventions.
2. Mobilise village communities, students, parents, educational institutions and local stakeholders.
3. Coordinate educational awareness campaigns and community outreach programmes.
4. Identify prospective students interested in pursuing higher education and guide them towards the University's official admission process.
5. Facilitate communication between the University and rural communities.
6. Assist in organising educational camps, seminars, workshops and community-development programmes.
7. Support surveys, documentation and preparation of reports on educational needs and outcomes.
8. Coordinate with local organisations, community leaders and relevant stakeholders for implementing approved activities.



Noble Education and Research Foundation
(Registered under the Telangana Societies Registration Act., 2001)

NERF

ARTICLE 17: DECLARATION OF MUTUAL COMMITMENT

The Parties hereby express their commitment to work together towards the advancement of higher education, social inclusion, rural educational development and sustainable community empowerment in Telangana.

Through this collaboration, **Chaitanya (Deemed to be University)** and **Noble Education and Research Foundation** shall endeavor to create an institutional framework that promotes educational opportunities, strengthens rural communities and contributes to the achievement of the Sustainable Development Goals.

IN WITNESS WHEREOF, the Parties hereto have signed this Memorandum of Understanding on this 02 day of Wed 2024 at 02-4-2024 Telangana, India. 02-Wed-2024

FOR THE FIRST PARTY

CHAITANYA (DEEMED TO BE UNIVERSITY

Signature:

Name: Prof. A. Raju

Designation: Dean Administration

Authorized Signatory

Seal of the University

FOR THE SECOND PARTY

NOBLE EDUCATION AND RESEARCH FOUNDATION (NERF)

Signature:

Name: M. Asha Jyothi

Designation: Joint Secretary.

Authorized Signatory

Seal of the Foundation

WITNESSES

1. Witness on behalf of the University

Name: Shashidhar

Signature:

2. Witness on behalf of the University

Name: Dr. P. OMKAR
Associate Professor

Signature:

Street No. 6, Domalguda, Hyderabad – 500029, Email: nerf.bharat@gmail.com; www.nerfbharat.org; Phone: +91-9848513518

Scanned with CamScanner

9. Assist in identifying eligible beneficiaries for educational support and scholarship-related awareness.
10. Submit periodic progress reports to the University regarding collaborative activities.

ARTICLE 5: GEOGRAPHICAL COVERAGE AND IMPLEMENTATION

The collaboration shall initially focus on rural, educationally backward and underserved areas of Telangana.

Priority shall be given to areas where access to higher education is limited due to economic, geographical, social or infrastructural constraints.

The initial geographical outreach shall include suitable rural communities and educationally underserved areas within the University's areas of institutional operation, including the regions surrounding Moinabad, Himayatnagar and Sangareddy, and other mutually identified districts and villages of Telangana.

The Parties may jointly identify additional geographical areas based on educational requirements, institutional capacity and available resources.

All academic programmes, admissions, teaching centres and other regulated educational activities shall remain subject to applicable UGC regulations and statutory approvals.

ARTICLE 3: RESPONSIBILITIES OF THE UNIVERSITY

Chaitanya (Deemed to be University) shall:A

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6. Provide information regarding admission procedures, eligibility criteria, academic regulations and available scholarship opportunities.
7. Issue certificates for programmes conducted by the University, wherever approved under its applicable policies.
8. Monitor the academic quality and educational relevance of activities undertaken under this MoU.

ARTICLE 6: JOINT IMPLEMENTATION AND COORDINATION

1. A Joint Coordination Committee shall be constituted with representatives nominated by both Parties.
2. The Committee shall prepare annual action plans and identify priority areas.
3. The Committee shall review programme implementation, participation and outcomes.
4. Each Party shall nominate a nodal officer for coordination.
5. Joint activities shall be implemented through mutually approved programmes and written action plans.



ARTICLE 7: FINANCIAL ARRANGEMENTS

1. This MoU does not automatically create any financial liability upon either Party.
2. Financial requirements for specific programmes shall be mutually discussed and approved in writing.
3. The Parties may explore eligible grants, CSR support, philanthropic contributions and other lawful funding sources for educational development initiatives.

4. Any financial assistance, expenditure or resource-sharing arrangement shall be governed by a separate written agreement or approved project proposal.
5. All financial transactions shall comply with applicable laws, rules and institutional financial procedures.

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CHAITANYA
(DEEMED TO BE UNIVERSITY)
(Approved u/s. 3 of UGC act. 1956 by MHRD, Govt. of India)
INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)
NATIONAL SERVICE SCHEME
SUSTAINABLE DEVELOPMENT GOALS

Himayathnagar Village, Moinabad Mandal Ranga Reddy District, Hyderabad

BLOOD
DONATION CAMP



SEPTEMBER 16, 2025
At 9:30 am
Organized by Microbiology Department
in Collaboration with Niloufer Hospital

Venue:
Chaitanya (Deemed to be University)
Hyderabad Campus

Contact us: +91 9441117918

"Blood donation will cost you nothing, but it will save a life!"

www.chaitanya.edu.in
@cdu_official

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IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A Study On The Significance And Current Scenario Of Higher Education In Telangana State - An Overview

Dr.PASHIKANTI OMKAR
M.A., B.Ed., APSET., PhD., PGDCA, Associate Professor of Economics Department of Commerce and Business Management, CHAITANYA DEEMED TO BE UNIVERSITY, Moinabad, Hyderabad, Telangana, India.PIN: 500075.

ABSTRACT

This study investigates the issues, challenges and opportunities in higher education and its significance in economic development of Telangana state. It includes colleges, universities, and all higher educational institutions teaching learning towards which students progress to attain higher educational qualification is where in depth skills knowledge and understanding is imparted to the students so as to advance to new frontiers of knowledge in different walks in life in every generation higher education provides quality human resources strong generation knowledge and empowered society they make high production or productivity in all aspects. The quality of primary education reflects higher education quality and standards also availability of facilities and infrastructure like teaching and non teaching, labs, equipment, research, library, books, senior innovative faculty members encourage the quality of higher education and present SC, ST, and other backward classes (BC) including minority communities, Economically Weaker Sections (EWS) are depends on public higher education institutions in Telangana state but the higher education faces many problems in my observation across higher education institutions and all universities in Telangana state. The main problems in the Telangana are lack of funding/finance in education sector and poor financial stage, lack of high quality research & development, basic needs, poor performance in quality of education and universities ranking, no recruitment in public universities past ten years and higher education, decline standards in field of higher education and infrastructure facilities and also present Government of Telangana creates uncertainty in the field of higher education institutions like Central university of Hyderabad 400 acres of land issue, and out of the all states and union territories in India Telangana is the last position or the overall performance of the state

Asian Journal of Soil Science and Plant Nutrition

Volume 11, Issue 2, Page 447-455, 2025; Article no.AJSSPN.134431
ISSN: 2456-9682

Molecular Profiling of Yield-Associated Genes/QTLs in Advanced Rice Breeding Lines (*Oryza sativa* L.)

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[b] Division of Plant Physiology, Indian Institute of Rice Research (IIRR), Rajendranagar, Hyderabad, Telangana, 500030, India.
[c] Central Tobacco Research Institute (CTRI), Rajamandry, Andra Pradesh, 533106, India.
[d] Prof. Jayashankar Telangana Agricultural University (PJTAU), Rajendranagar, Hyderabad, Telangana, 500030, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: https://doi.org/10.9734/ajsspn/2025/v11i2541

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://pr.sdiarticle5.com/review-history/134431

Original Research Article

Received: 12/02/2025
Accepted: 15/04/2025
Published: 28/06/2025

ABSTRACT

An investigation was conducted at Indian Institute of Rice Research (IIRR) farm located at Rajendranagar, Hyderabad. The experimental field was laid in RBD design using 30 advanced Breeding Lines ABL (SP-02, SP-03, SP-08, SP-13, SP-25, SP-34, SP-37, SP-55, SP-57, SP-61,

[++] Principal Scientist (Rtd.);
[#] Director;
[†] Dean of Students Affair (DSA);
**Corresponding author: Email: ddevkumar45@gmail.com;*

Cite as: *Kumar, D. Dev, P. Raghuveer Rao, M. Sheshu Madhav, and D. Vishnuvardhan Reddy. 2025. "Molecular Profiling of Yield-Associated Genes/QTLs in Advanced Rice Breeding Lines (Oryza Sativa L.)". Asian Journal of Soil Science and Plant Nutrition 11 (2):447-55. https://doi.org/10.9734/ajsspn/2025/v11i2541.*

3. The Parties may explore eligible grants, CSR support, philanthropic contributions and other lawful funding sources for educational development initiatives.
4. Any financial assistance, expenditure or resource-sharing arrangement shall be governed by a separate written agreement or approved project proposal.
5. All financial transactions shall comply with applicable laws, rules and institutional financial procedures.

ARTICLE 8: MONITORING, EVALUATION AND REPORTING

The Parties shall jointly monitor the progress and effectiveness of the collaborative initiatives through measurable indicators, including:

- Number of villages and rural communities covered.
- Number of educational awareness programmes conducted.
- Number of students and beneficiaries reached.
- Number of students guided towards higher education.
- Participation of women and economically disadvantaged communities.
- Number of skill-development and digital literacy programmes conducted.
- Number of research, outreach and community-development activities undertaken.
- Documented educational and social outcomes.

An annual progress report may be prepared to assess the contribution of the collaboration towards the relevant Sustainable Development Goals.

ARTICLE 9: SUSTAINABLE DEVELOPMENT GOAL ALIGNMENT

The Parties agree that this institutional collaboration shall contribute particularly to:

SDG 4 – Quality Education: Expanding awareness, access and opportunities for inclusive higher education.

SDG 10 – Reduced Inequalities: Addressing disparities in educational access among rural and disadvantaged communities.

SDG 17 – Partnerships for the Goals: Establishing an effective and sustainable partnership between a higher education institution and a civil-society organisation in pursuit of educational and social development.

The Parties shall document the activities and outcomes of the partnership to demonstrate their contribution to these goals.

INDEPENDENCE OF THE PARTIES Memorandum of Understanding (MoU) between Chaitanya (Deemed to be University) and Noble Education and Research Foundation (NERF)

1. This MoU shall not create a partnership firm, joint venture, agency, employment relationship or legal association between the Parties.
2. Both Parties shall retain their independent legal identity, institutional autonomy and administrative authority.



3. authority or academic awarding body of the University.
4. The University shall retain exclusive control over admissions, curriculum, examinations, evaluation, academic standards and award of qualifications.
5. No degree, diploma or academic qualification shall be awarded by the Foundation under this MoU.

ARTICLE 11: INTELLECTUAL PROPERTY AND PUBLICITY

Any jointly developed academic materials, research outputs, publications or other intellectual property shall be governed by mutually agreed written terms.

Neither Party shall use the name, logo or institutional identity of the other Party in publicity or promotional material without prior written permission.

ARTICLE 12: CONFIDENTIALITY AND DATA PROTECTION

Both Parties shall maintain confidentiality regarding institutional records, student information and other confidential information exchanged under this MoU.

Any collection, use or sharing of personal information shall comply with applicable data protection laws and institutional policies.

ARTICLE 13: DURATION AND RENEWAL

This MoU shall come into force from the date of signing by both Parties and shall remain valid for a period of **FIVE (5) YEARS.**

It may be extended or renewed for a further period through mutual written consent.

The Parties may review the implementation and continuation of the MoU periodically.

ARTICLE 14: AMENDMENT AND TERMINATION

6. Any amendment or modification to this MoU shall be made through mutual written consent.
7. Either Party may terminate this MoU by giving three months' prior written notice to the other Party.
8. Termination shall not affect the completion of activities already undertaken, unless otherwise mutually agreed.
9. The Parties shall endeavour to resolve outstanding matters amicably.

ARTICLE 15: DISPUTE RESOLUTION

Any differences or disputes arising out of the interpretation or implementation of this MoU shall initially be resolved through mutual consultation and discussion between the authorised representatives of the Parties.

If an amicable resolution is not reached, the matter shall be dealt with in accordance with applicable laws in India.

ARTICLE 16: GENERAL PROVISIONS

CHAITANYA
(DEEMED TO BE UNIVERSITY)
(Approved u/s. 3 of UGC act. 1956 by MHRD, Govt. of India)
INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)

International Journal of Research in Agronomy 2026; 9(1): 657-661



E-ISSN: 2618-0618
P-ISSN: 2618-060X
© Agronomy
NAAS Rating (2026): 5.20
www.agronomyjournals.com
2026; 9(1): 657-661
Received: 21-11-2025
Accepted: 26-12-2025

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Genomic analysis for the selection of superior donor genotypes in rice improvement

D Dev Kumar, D Vishnu Vardhan Reddy, P Raghuveer Rao, M Sheshu Madhav and V Gouri Shankar

DOI: https://www.doi.org/10.33545/2618060X.2026.v9.i1i.4762

Abstract
The field experiment was conducted following a Randomized Block Design (RBD) with three replications, involving 30 advanced breeding lines, with BPT-5204 included as a standard quality check. For molecular characterization, a set of seven genes (*Gs3, Gw5, Gn2, Gn1, SCM3, SCM2, and Spl14*) and three yield-related *QTLs* (*Yld12.1 and Yld2.*1) associated with grain yield were employed. Among these, *Gn1* and *Gn2* were linked to grain number, *SCM2* and *SCM3* to culm strength, *Gw5* to grain weight, *Gs3* to grain size, and *Spl14* to the number of filled grains per panicle. Genotyping results revealed that only one advanced breeding line, SP-08**,** possessed all seven yield-associated genes and *QTLs*, suggesting a strong potential for enhanced yield performance. Two breeding lines exhibited the presence of six yield-contributing loci**:** SP-69**,** which carried *Gn2, Gn1, Gw5, SCM3, Yld2.1, and Spl14,* and SP-70, which harbored *Gn1, SCM3, Gw5, Gs3, Yld2.1, and Yld12.1.* In addition, four advanced breeding lines were identifies with 5 yield-related genes/*QTLs***,** line SP-37 (*Gn2, SCM3, Gw5, Yld2.1, Yld12.1*), SP-55 (*Gn2, SCM2, SCM3, Gw5, Yld2.1*), SP-75 (*Gn2, Gn1, SCM3, Gw5, Yld12.1*), and SP-61 (*Gn2, Gn1, SCM2, Gw5, Yld2.1*).

Keywords: Advanced breeding lines, Gn2, Gn1, SCM3, SCM2, Gs3, Gw5, Spl14, QTLs, Yld2.1, Yld4.1 and Yld12.1

Introduction

Rice (*Oryza sativa* L.) is the family *Poaceae* and the subfamily *Oryzoideae*. As one of the principal cereal crops, rice serves as the primary food source for a large proportion of the global population. Along in Asia, over two billion people derive nearly 60-70 percentage of their daily food habits intake from rice and rice-based products. Among rice-producing nations, India ranks first in cultivated area (42.27 million hectares) and second in total production (105.24 million tonnes), following China, which produces approximately 144 million tonnes. However, India's average rice productivity (2.49 t ha^{-1}) remains considerably lower than the global mean yield of 4.36 t ha^{-1} (FAOSTAT, 2019). With an annual population growth rate of about 1.9 percentage, India's projected rice demand is expected to reach nearly 125 million tonnes by 2030 [1]. Ensuring national food security under such conditions necessitates substantial improvements in rice yield despite constraints on land and water availability. Approximately, increasing grain output per unit number of natural resource has become a critical challenge.

The closely low yield levels of rice in India pose a serious threat to the food and nutritional security of more than 45 Percentage of the population, who depend heavily on this crops. Moreover, the growing lower of irrigation water is emerging as a major limitation to sustainable rice production, particularly in leading rice-growing countries such as India, USA and China, where escalating comparative for fresh water resources from without agricultural sectors is anticipated in the becoming years [2].

Plant height and flowering duration are key detections of rice plant architecture and productivity. In this study, attempts were made to conduct a morphological and molecular characterization of Ethyl Methane sulfonate-induced dwarf and early flowering mutants developed from the rice variety Nagina 22, along with an assessment of their inheritance patterns. A total of 9 stable, true-breeding mutants, previously generated through Ethyl Methane sulfonate mutagenesis, were evaluated for variation in phenotypic traits following the national guidelines for (DUS) [3].

1. This MoU represents the understanding between the Parties concerning the proposed collaboration.

2. Specific projects may be implemented through separate written agreements, project proposals or activity plans.
3. Neither Party shall undertake any activity on behalf of the other Party without prior authorisation.
4. All activities shall be conducted in accordance with applicable laws, UGC regulations, statutory requirements and institutional policies.
5. Nothing in this MoU shall be interpreted as authorising the establishment of an off-campus centre, study centre or academic delivery arrangement requiring statutory approval without obtaining such approval.

END OF MEMORANDUM OF UNDERSTANDING

Important recommendations before execution

I recommend retaining the following provisions in the final agreement:

- Three-year validity: With an annual review and renewal provision.

- Joint Coordination Committee: To ensure that the collaboration produces verifiable educational outcomes.

CHAITANYA NEWS



Students Visit to ICMR-NIN on 4-12-2025



Our Chief guest, Dr. Ch. Sathvika,CAO, addressed the gathering at the event World Food Day on 16th October 2025



"World Suicide Prevention Day" was conducted on 24th October 2025



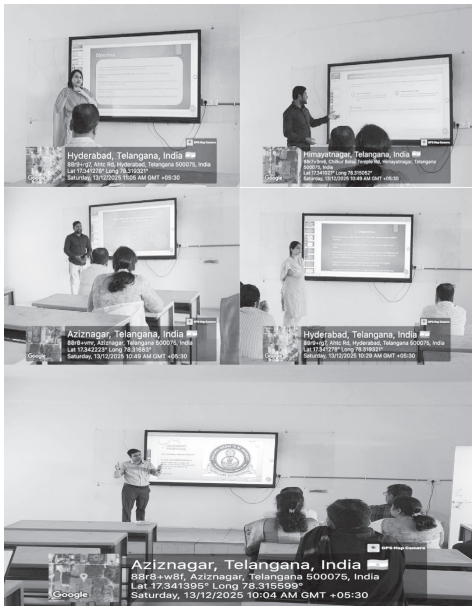
Research Design Seminar conducted on 23-1-2025 for 2025-2026 scholars

Publications, Patents, and Chapters by the Biochemistry Department

1. Battula Surender Reddy, Nalvothula Raju, and Gurram Shyam Prasad published a research paper titled, "Exploring the inhibitory potential of CoQ10 on Prenyl transferases through in silico approach" in the Research Journal of Biotechnology, 10(20):138.
2. Fakeha Sadaf, Indraganti Sai Jayasri, K.V.N. Rajeswari, and V. Srilekha published a research paper titled "Free Radical Scavenging and Antioxidant Potential of Rauwolfia serpentina Root Extracts" in the Journal of Molecular Science, Volume 35, Issue 3, in 2025, on pages 1075-1081. DOI: 10.004687/1000-9035.2025.143.
3. Susmitha Kodam, Jahnavi Alwala, and K.V.N. Rajeswari published a research paper entitled, "Comparative Evaluation of Submerged and Solid-State Fermentation for Enhanced Phytase Production by Aspergillus niger strain RA401." in the Journal of Molecular Science Volume 35 Issue 4, Year of Publication 2025, Page 1699-1702 DoI-10.004687/1000-9035.2025.220
4. Jahnavi Alwala and K. V. N. Rajeswari published Chapter 5, "Endocrine Disrupting Chemicals and Antibiotics in Wastewater" in a book by Springer Nature Switzerland AG 2025 H. Gupta et al. (eds.), Emerging Contaminants in Water and Wastewater, Environmental Science and Engineering, https://doi.org/10.1007/978-3-031-82579-8_5

DEPARTMENT OF BIOTECHNOLOGY

1.RDS Presentations of PhD. Scholars of Batch



- Rural educational outreach: The NGO should identify

CHAITANYA
(DEEMED TO BE UNIVERSITY)
(Approved u/s. 3 of UGC act. 1956 by MHRD, Govt. of India)
INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)

Journal of Molecular Science

Journal of Molecular Science
Volume 35 Issue 4, Year of Publication 2025, Page 1699-1702
DoI-10.004687/1000-9035.2025.220

Journal of Molecular Science
www.jmolecularsci.com ISSN:1000-9035

Comparative Evaluation of Submerged and Solid-State Fermentation for Enhanced Phytase Production by *Aspergillus niger* strain RA401

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Article Information
Received: 04-10-2025
Revised: 21-10-2025
Accepted: 17-11-2025
Published: 24-12-2025

Keywords
Phytase, Aspergillus niger, Submerged fermentation, Solid-state fermentation, Agro-industrial wastes.

ABSTRACT
An essential industrial enzyme called phytase (EC 3.1.3.8) is utilized extensively in animal nutrition to increase phosphorus bioavailability and lessen phosphorus pollution in the environment. The synthesis of phytase by *Aspergillus niger* strain RA401 under submerged fermentation (SMF) and solid-state fermentation (SSF) was compared in this work. By altering the incubation period, beginning pH, temperature, carbon and nitrogen supplies, and inoculum size, SMF optimization was done one factor at a time (OFAT). Agro-industrial wastes were used as solid substrates by SSF. Under SSF, wheat bran promoted the highest amount of phytase synthesis. Under ideal circumstances, SSF produced substantially more phytase activity than SMF overall. The results show that SSF is an excellent, economical, and ecologically friendly method for the *Aspergillus niger* strain RA401 to produce phytase.

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1. INTRODUCTION:

Myo-inositol hexakisphosphate, or phytic acid, is the main form of phosphorus stored in oilseeds, legumes, and grains. The lack of endogenous phytase causes monogastric animals to poorly digest phytic acid, despite the fact that it is plentiful in plant-based feed ingredients. This results in decreased mineral bioavailability and increased phosphorus excretion into the environment (Singh & Satyanarayana, 2011). Thus, in the livestock and poultry industries, microbial phytases have become essential feed additives.

Due to their capacity for external secretion, acidophilic enzyme characteristics, and adaptability to a variety of fermentation systems, filamentous fungus, especially Aspergillus niger, are regarded as effective phytase producers among microbial sources (Vats & Banerjee, 2004). Fermentation-based techniques are the mainstay of commercial phytase production; the most commonly used methods are solid-state fermentation (SSF) and submerged fermentation (SMF).

The benefits of SMF, which involves microbial growth in liquid media, are easy scale-up and exact control over environmental factors. But it frequently necessitates refined substrates and produces a lot of wastewater (Pandey et al., 2001). SSF, on the other hand, reduces catabolite suppression, increases enzyme titers, and effectively uses agro-industrial leftovers by using moist solid substrates devoid of free-flowing water, which closely resembles the natural habitat of filamentous fungi (Singhania et al., 2010).

Phytase production by Aspergillus niger RA401 was optimized under SMF, agro-industrial residues were screened for phytase production under SSF, and a thorough comparison of SMF and SSF was conducted to determine the best fermentation method.

2. MATERIALS AND METHODS:

2.1 Source of the fungal strain:

Previously isolated from rotten fruits, the fungal strain employed in this study was kept in the culture collection of the Chaitanya (Deemed to be University) Biochemistry Laboratory in Himayath nagar (V), Moinabad (M), Ranga Reddy District, Hyderabad. Based on molecular identification and microscopic features, the isolate was previously known to be Aspergillus niger strain RA401. The internal transcribed spacer (ITS) region of rDNA was

communities and mobilise students, while the University provides academic guidance and recognised educational opportunities.

- No unauthorised academic centres: The MoU must not inadvertently create an arrangement for operating University campuses or study centres without required regulatory approvals.

Agriculture Association of Textile Chemical and Critical Reviews Journal (2025) 785-794

AATCC Review

17 July 2025: Received
08 September 2025: Revised
15 September 2025: Accepted
13 October 2025: Available Online

https://aatcc.peerjournals.net/

Original Research Article — Open Access

Morpho-Phenological and Molecular Traits for Yield-Associated Genes/QTLs in Advanced Rice Breeding Lines (*Oryza sativa* L.)

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ABSTRACT

An investigation was conducted at the Indian Institute of Rice Research (IIRR) farm located at Rajendranagar, Hyderabad. The experimental field was laid out in an RBD design using 30 advanced breeding lines. BPT-5204 is used as a quality check. The experimental field was laid in RBD replicated thrice with 30 high yielding rice genotypes which includes 26 advanced breeding lines (ABL) (SP-351, SP-352, SP-353, SP-354, SP-355, SP-356, SP-357, SP-358, SP-359, SP- 360, SP-70, SP-72, SP-63, SP-61, SP-69, SP-55, SP-80, SP-25, SP-13, SP-03, SP-02, SP-34, SP-37, SP-08, SP-75 and SP-57) and four checks(NDR-359, BPT-5204, IR-64, Jaya).
Morphological parameters of plant height among genotypes ranged from 92 to 131cm. Genotype, SP-70 (126 cm), showed maximum plant height and was followed by SP-355 (124 cm), compared to BPT-5204 (98 cm). Mean plant height increased by 44.3% from active tillering to panicle initiation stage and then by 28.4% from PI to physiological maturity. A higher number of tillers per plant was observed in SP-08 and SP-70 (23) compared to check BPT-5204 (18). Among the duration groups, the short duration (116 to 122 days) lines were SP-08, SP-72, SP-70, and SP-69. The medium duration (125 to 133 days) lines, SP-351, SP-353, SP-355, SP-357, SP- 80, and SP-25, and long duration (140 to 148 days) lines, SP-02, SP-03, and SP-37 found superior in terms of grain yield as compared to their respective check varieties. Two advanced breeding lines, namely SP-08, SP-70, can be further probed thoroughly for further increasing yield and yield attributes. The morphological and physiological parameters of advanced breeding lines were correlated with the molecular analysis. SP-08 showed better morpho-phenological parameters like the number of tillers and also showed the presence of seven (Gn1, Gn2, Yld12.1, and Yld2.1) yield contributing genes/QTLs. Genotype, SP-70 showed better in several physiological parameters photosynthetic rate, SPAD meter readings, dry matter accumulation, and also contains six (Gn1, Yld2.1, and Yld12.1) genes/QTLs. Genotype, SP-69 higher panicle length and also contains six corresponding genes governing (Gn1, Gn2, and Yld2.1) genes/QTLs.

Keywords: *Rice (Oriza sativa), Advanced Breeding Lines(ABL), Plant Height, Number of tillers, yield contributing genes/ QTLs (Gn1, Gn2, Yld12.1, Yld4.1and Yld2.1).*

Introduction

Rice (*Oryza sativa* L.) belongs to the family Gramineae and subfamily *Oryzoideae*. As a cereal grain, it is the most important staple food crop in the world. In Asia, more than two billion people are getting 60-70 per cent of their energy requirement from rice and its derived products. In the twenty-first century, the world faces a serious challenge in that agricultural land area has sharply decreased in contrast to a population explosion. To solve the crisis of food shortage, there is a necessity to increase the crop productivity of rice, as rice is the primary staple food for one- third of the world population after wheat and maize.

So far, several high-yielding and management-responsive varieties have been developed and released for improved crop production.

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DOI: https://doi.org/10.21276/AATCCReview.2025.13.04.785
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Among which Samba Mahsuri, a hybrid derived from the cross (GEB 24 x TN1) rice, is otherwise called Sona Mahsuri/ Samba Mahsuri/ BPT- 5204, which is a premium quality aromatic and light-weight rice. Due to its excellent grain character, the variety is regularly used in hybridization programmes to meet current breedingobjectives. Therefore, use of advanced breeding lines generated from BPT-5204 would only be appropriate, and evaluation of available germplasm or mutants for various physiological and yield attributes is essential [1].

Keeping the above-mentioned points in view, it was proposed to characterize the advanced EMS-mutated lines for their important morphological, physiological, yield yield- attaining traits, grain characteristics as compared to the wild type (untreated Samba Mahsuri). Further, molecular characterization of these selected lines would confirm the specific characteristics of a variety.

Material and Methods

Location of the experimental site

This research was conducted during the *Kharif* season 2014 and 2015 at the research farm of the Indian Institute of Rice

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SDG reference for the agreement

IQAC Committee:

Sl. No.	Name	Role	Signature
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