

FOOD FOR THOUGHT



**Food
Festival**

Food Fest Tech Bowl '25

**National
Seminar**

on Fostering Entrepreneurship
Through Innovations in Food Processing

Half-yearly Newsletter of SFST
Vol. 2 December-June 2025



SCHOOL OF FOOD SCIENCE & TECHNOLOGY MAHATMA GANDHI UNIVERSITY

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About Us

The School of Food Science and Technology is one of the new departments of Mahatma Gandhi University to provide academic expertise to students in the areas of food science, food technology, nutrition, and dietetics. The research areas at the School of Food Science and Technology include new food product development, processing and packaging technology development, subjective and objective quality analysis of foods, and microbiological analysis of foods etc. The institute is aimed at developing and contributing skilled manpower to academic, food industry and health care sectors.

Food plays a vital role in determining the physical as well as mental health of a person. Food quality, safety, and nutrition are important factors concerning the wellbeing of society. The study of the physical, biological and chemical factors that constitute food is called food science. Food technology applies these scientific principles to the selection, preservation, processing, packaging, distribution and safe consumption of food. It revolves around the composition, nutritional make-up and new processes designed to reinvent and increase food resources. Food science and technology constitute activities like enhancing food products, increasing their durability, checking their safety or making them healthier together.





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MESSAGE



Vice-Chancellor

Mahatma Gandhi University

It is a great pleasure to know that School of Food Science and Technology is bringing out a Newsletter to commemorate the activities of the School for the half year 2025.

In a very short span, School of Food Science and Technology has developed itself in such a way that the School is up-to-date with the nuances in technology under the able leadership of Prof. Jisha M.S. I believe that this Newsletter not only provides an outlet to the latent creative potential of the students but also proudly showcases the milestones the School has achieved.

Achievement without happiness is no success at all and hence it is again very important to look within and realize as to what it is that one wants. The Newsletter, being brought out on the occasion, captures the magnificent moments and outstanding achievements of the School. It is also a tribute to the faculty members who have contributed to the growth and glory of the institution over the years.

The contents of the Newsletter reflect the wonderful creativity of thoughts and imagination of the students. I congratulate the organisers for coming out with such a noble initiative and appreciate their untiring efforts in publishing this Newsletter.

With best wishes,

Prof. (Dr.) C.T. Aravindakumar

Date: 06.11.2024



SCHOOL OF FOOD SCIENCE AND TECHNOLOGY MAHATMA GANDHI UNIVERSITY

DIRECTOR'S MESSAGE

I am immensely pleased to connect with you through the edition of our School of Food Science and Technology Newsletter. As our journey through a world increasingly conscious of food quality, safety, and sustainability, our institution strives for excellence in education, research, and industry collaboration.

Food science and Technology is a dynamic field that directly impacts global health, nutrition, processing, and advanced technological incorporation in food product development. Our school is committed to equipping our students with cutting-edge knowledge, fostering innovation, and nurturing their passion to address these global challenges. Through interdisciplinary learning and hands-on experiences, we aim to empower them to lead advancements in food processing, packaging, and product development while prioritising sustainability and consumer well-being.

This newsletter highlights the remarkable achievements of our students and faculty, groundbreaking research initiatives, industry collaborations and the exciting events that have brought our community. These milestones reflect our dedication to shaping a future where food systems are safer, healthier and more resilient.

I invite you to explore this edition and celebrate the collective efforts that drive our vision forward. I congratulate the organisers for coming out with such innovative efforts as we strive for excellence in Food Science and Technology to shape the future of food and improve lives.



Dr. Jisha M.S
Hon'ble Professor and
Director
School of Food Science And
Technology
M. G. University, Kottayam



HALF YEARLY NEWSLETTER

VOL. 2 DECEMBER - JUNE 2025

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ABOUT THIS NEWSLETTER

Welcome to the official newsletter of the Department of Food Science and Nutrition, where we bring you highlights of our vibrant academic and co-curricular engagements. This newsletter captures the dynamic spirit of our department through a curated collection of recent events, seminars, industrial visits, and celebrations that enrich the student experience and foster professional growth.

Each event has served as a stepping stone in building a more informed, connected, and inspired academic community. Stay tuned as we continue to explore, engage, and evolve through knowledge-sharing and experiential learning!

Christmas Celebration

December 19th, 2024



A wonderful Christmas celebration by students, teachers and staffs of SFST

A Joyous Celebration of Christmas Spirit

The School of Food Science and Technology celebrated Christmas with great enthusiasm on December 19, 2024. The celebration began at 3:00 PM, bringing together the entire department for an afternoon filled with festive joy, unity, and warm fellowship.

The venue was beautifully decorated with glowing Christmas lights and festive ornaments, creating a cozy and cheerful atmosphere. A heartfelt highlight of the event was when Jisha Ma'am, Anooja Ma'am, and other faculty members reverently placed the baby Jesus in the crib, setting a reflective and touching tone for the celebrations.

A heartfelt highlight of the event was when Jisha Ma'am, Anooja Ma'am, and other faculty members reverently placed the baby Jesus in the crib, setting a reflective and touching tone for the celebrations.

Lively Activities and Collective Cheer

Following this, the traditional cake-cutting ceremony was held, with faculty members taking the lead in cutting the Christmas cake. The program featured a variety of engaging activities such as Christmas carol singing, dumb charades, an exciting lucky draw, and a creative snowman-making competition. Both students and faculty actively participated, making the event lively and memorable.

Another highlight was the Christmas gift exchange, where students and faculty shared thoughtful gifts, adding warmth and personal connection to the occasion.

The celebration came to a joyful close at 6:00 PM, with warm wishes for a Merry Christmas and a Happy New Year. The event left everyone with cherished memories and a renewed sense of festive spirit and togetherness.

FOOD FEST TECH BOWL '25

January 15th, 2025

Purpose and Core Essence of the Event

Through this festival, the School of Food Science and Technology aims to showcase its excellence and competence in two key areas:

- 1.Theoretical knowledge, involving the scientific foundation of food processing and food technology.
- 2.Practical application, where students demonstrate how theory is translated into real-world food product

This event also acts as a development platform for students, providing them with opportunities to hone their skills in product creation, public engagement, and communication of innovative ideas to a wider audience.

Food Fest Tech Bowl '25 was once again held with great enthusiasm on January 15th, 2025, proudly organized by the School of Food Science and Technology as part of a long-standing annual tradition. More than just a typical food festival, this event was a vibrant celebration of the synergy between science, culture, creativity, and community spirit.

What Is a "Food Fest"?

A Food Fest is an annual event designed to celebrate culinary richness—featuring dishes from both local and international origins. It serves as a platform for the community to gather, enjoy delicacies from diverse cultures, and share memorable moments with family, friends, and peers.



A Feast of Flavors from Around the World

One of the main highlights of Food Fest Tech Bowl '25 was its multicultural culinary exhibition, offering a delicious variety of dishes representing the rich food traditions of India, Indonesia, Nigeria, and several Western cuisines. Visitors were treated to a mouth-watering spread, including: *Jollof rice, chicken satay, pazhampori beef, pasta, tender coconut pudding, caramel pudding, nuggets, lasagna, cutlet, erachi pathiri, pani puri, shawarma shots, cheesecake, gulab jamun, unnakkaya, kayipola, kappa vevichath and fish curry, uppilittath, and achar.*

All dishes were meticulously prepared and beautifully presented by students, showcasing not only their creativity but also a deep understanding of food preparation techniques and food safety standards.



Engaging Entertainment and Educational Competitions

Beyond the culinary delights, the event was further enlivened by energetic live entertainment. Music filled the air throughout the day, and many participants joined spontaneously in singing and dancing, contributing to a warm and joyful atmosphere.

The festival also featured an exciting interactive quiz competition, challenging participants' knowledge in food science, culinary traditions, and technological innovations. Winners of the competition were awarded attractive prizes, in recognition of their enthusiasm and outstanding performance.



Positive Impact and Student Enthusiasm

Food Fest Tech Bowl '25 was a truly memorable event, leaving a lasting impact on everyone involved. It drew significant attention not only from students within the department but also from students across various disciplines who share a passion for food and innovation. The high level of participation and enthusiasm reflected the festival's success in promoting collaborative spirit and increasing awareness of the vital role food science plays in everyday life.

See You at Food Fest 2026!

With all the delicious food, creative energy, and uplifting spirit displayed this year, Food Fest Tech Bowl '25 has set a new benchmark for future events. Don't miss the surprises and extraordinary culinary experiences that are already in the works for Food Fest 2026.



Industrial visit at Mondelēz International, Sri City, Varadaiahpalem, Andhra Pradesh

January 20th –22nd, 2025



Industry Exposure for Future Food Technologists

The School of Food Science and Technology at Mahatma Gandhi University successfully organized a visit to Mondelēz International, a renowned global leader in the snack food industry, located in Sri City, Varadaiahpalem, Andhra Pradesh, from January 20th to 22nd, 2025. The 2023–2025 batch students had the opportunity to gain valuable insights into modern food processing, packaging, quality control, and supply chain operations.

Behind the Scenes at a Global Snack Giant

During their three-day industrial visit, the Mondelēz team provided an in-depth tour of the facility, complemented by live demonstrations and detailed explanations of each manufacturing stage. This experience effectively bridged the gap between theoretical knowledge and practical exposure, enabling students to engage with industry professionals, understand industry expectations, and develop a deeper appreciation for the complexities of food manufacturing.

Active Participation and Learning Outcomes

The visit was a resounding success, with students actively participating in discussions, asking pertinent questions, and taking away valuable lessons that will undoubtedly enhance their academic and professional pursuits. We express our sincere gratitude to Mondelēz International for their warm hospitality and for providing a valuable learning experience. Special appreciation is extended to the faculty coordinators for their efforts in ensuring the success of this trip, making it a memorable and enriching experience for all involved.

**"Real-world exposure is
the ingredient that
transforms theory into
understanding—our visit
to Mondelēz was a recipe
for future success."**

INDUSTRIAL VISIT TO KERALA VETERINARY AND ANIMAL SCIENCES UNIVERSITY, MANNUTHY, THRISSUR FEBRUARY 7th, 2025



Kerala Veterinary and Animal Sciences University (KVASU)

An industrial visit was organized to the Kerala Veterinary and Animal Sciences University (KVASU), Mannuthy, Thrissur, providing a valuable opportunity for students to gain firsthand exposure to large-scale dairy processing and food technology operations. The visit began at the KVASU Dairy Plant, a facility established in 1983, which serves as an essential practical training ground for students pursuing Dairy Science and Technology.



The plant, with a daily processing capacity of around 4,000 liters, is equipped with modern systems for pasteurization, homogenization, hygienic packaging, and cold storage. It plays a crucial role not only in milk processing but also in the production of value-added dairy products such as curd, flavored milk, ghee, and paneer.

Our activity

The plant, with a daily processing capacity of around 4,000 liters, is equipped with modern systems for pasteurization, homogenization, hygienic packaging, and cold storage. It plays a crucial role not only in milk processing but also in the production of value-added dairy products such as curd, flavored milk, ghee, and paneer.

Following our visit to the dairy plant, we proceeded to the Verghese Kurien Institute of Dairy and Food Technology, located within the same campus. This part of the visit was equally enriching and pleasant as we toured several specialized



specialized laboratories, including Microbiology, Food Chemistry, Food Technology, and the Starter Culture Laboratory. Each laboratory was well-equipped with advanced instruments and the staff took the time to explain the purpose, principles, and practical applications of each instrument in the dairy and food industries.

Some of the notable instruments we observed included the ELISA (Enzyme-Linked Immunosorbent Assay), which is essential for detecting specific proteins and contaminants in food samples, and the Spectrophotometer, which measures the amount of light absorbed by a sample to determine solute concentration. The Viscometer was demonstrated for measuring the viscosity of liquids, while the Kjeldahl

apparatus was explained for its role in determining the protein content in food products. Additionally, the Moisture Analyser was shown as a crucial tool for assessing the moisture content of raw ingredients and finished products, ensuring product quality and shelf stability.

At the Starter Culture Laboratory, we learned about the cultivation, selection, and characterization of microorganisms, particularly Lactic Acid Bacteria (LAB), which are used as starter cultures in the production of fermented dairy products such as yogurt, cheese, and sausages. These cultures are also supplied to small-scale food and dairy industries, supporting the development of quality fermented products. The laboratory staff provided in-depth explanations of how these cultures are maintained and their applications in enhancing the nutritional and sensory properties of dairy products.

Overall, this visit was an invaluable learning experience that bridged the gap between theoretical knowledge and industrial practices. It provided a comprehensive insight into modern dairy processing techniques, food safety measures, and the importance of research and innovation in the dairy and food industries.



Verghese Kurien Institute of Dairy and Food Technology



NATIONAL SEMINAR ON FOSTERING ENTREPRENEURSHIP THROUGH INNOVATIONS IN FOOD PROCESSING | March 11th, 2025

SCHOOL OF FOOD SCIENCE AND TECHNOLOGY



Opening of the event by Prof. (Dr.) Sabu Thomas

The Department of Food Science and Technology proudly hosted a National Seminar on March 11, 2025, themed "Fostering Entrepreneurship through Innovations in Food Processing." The event brought together a distinguished assembly of academicians, researchers, entrepreneurs, and students to explore how innovative ideas in food science can be effectively transformed into sustainable business ventures.

The seminar commenced with a thought-provoking presentation by Prof. (Dr.) K. P. Sudheer, who highlighted the significance of fostering entrepreneurship through scientific innovation. He discussed the role of research-driven food processing in creating value-added products, reducing post-harvest losses, and opening up new market opportunities, particularly for small and medium-scale enterprises. His address emphasized the importance of skill development, incubation support, and policy integration in cultivating a thriving entrepreneurial ecosystem in the food sector.

Building on the theme of innovation, Prof. (Dr.) Ranganathan T. V. offered valuable insights into the current trends in the processing of natural colors, stressing the rising consumer demand for clean-label and plant-based food additives. He presented emerging technologies and methods for extracting natural pigments from fruits, vegetables, and other biological sources paving the way for startups and industries to replace synthetic dyes with safer, marketable alternatives.



Presentation by Prof. (Dr.) K. P. Sudheer



In a session that blended science with public health, Dr. Jyothi S. Krishnan addressed the critical subject of processed food and health. She shed light on the nutritional implications of various processing methods and how innovative techniques can be harnessed to enhance food safety and quality. Her talk underscored the responsibility entrepreneurs have in balancing commercial viability with consumer well-being.

Concluding the technical sessions, Dr. Binsi P. K. shared her expertise on modern approaches to fish processing and utilization. She discussed advanced preservation techniques, value addition through ready-to-eat and shelf-stable products, and sustainable utilization of by-products. Her presentation revealed the vast untapped potential within the fisheries sector for entrepreneurship, especially in coastal and aquaculture-rich regions.



Q&A session at the seminar

Throughout the seminar, participants engaged in rich discussions and interactive Q&A sessions, gaining valuable exposure to entrepreneurial opportunities, current industry challenges, and innovative solutions. The event successfully fostered collaboration between academia and industry, while inspiring attendees to pursue innovative solutions and sustainable ventures in food science and technology.

As a gesture of recognition and encouragement, all participants were presented with certificates of participation at the end of the seminar, acknowledging their involvement and commitment to advancing knowledge and innovation in the field.

"Innovation in food processing is the recipe for empowering entrepreneurs and nourishing a future full of opportunity"



Certificate awarding by Prof. (Dr) Jisha M S



STATE LEVEL HANDS-ON TRAINING ON “PROCESSING AND VALUE ADDITION IN MILLETS” | March 6th, 2025

A team of 20 enthusiastic participants from our institution had the valuable opportunity to attend a State Level Hands-on Training Programme on “Processing and Value Addition in Millets” held at St. Joseph’s University on March 6th. The event was aimed at promoting millet awareness and equipping participants with practical skills in developing millet-based products.

It began with a warm welcome from the organizing faculty, followed by speeches highlighting the importance of millets in sustainable development, especially after the UN declared 2023 as the International Year of Millets. Speakers emphasized the role of youth in reviving millet consumption through innovation. The first session featured an informative lecture by Dr. Ashwini A. from the Institute of Baking Technology and Value Addition,

covering the significance of millets in Indian agriculture, their nutritional benefits, classification, and market potential of value-added millet products.

The second session provided hands-on training where participants actively prepared various millet-based items such as cookies, laddus, payasam, and cakes under expert guidance. This practical exposure offered valuable learning in food processing and product development.

The program concluded with a Q&A session and distribution of participation certificates. Overall, the workshop effectively combined theoretical knowledge and practical experience, empowering students with essential skills in millet processing and value addition.



IFTAR MEET

MARCH 13th, 2025

An Iftar meet was organized by the first-year students of the School of Food Science & Technology on March 13. The event was held in the department's outdoor area, which was beautifully decorated in an Iftar theme with fairy lights and other festive elements..

The Director and Coordinator of the department were invited as special guests and delivered brief, thoughtful talks to mark the occasion. The gathering was also attended by teaching and non-teaching staff, along with second-year students who joined as guests, contributing to the warm and making it a memorable occasion.

As part of the Iftar, refreshing juice was prepared by the students, and snacks were served as starters. The Iftar meal commenced at 6:45 PM, marking the end of the day's fast. Following this, a delicious

main course was served as dinner, after which everyone happily dispersed.

A particularly remarkable aspect of the event was that the entire department—students, faculty, and staff—observed the fast in unity, making the occasion even more meaningful and memorable.



"Breaking the fast is not just about ending hunger, but about filling the heart with gratitude, friendship, and love for the sake of God"





PACKAGING HANDS-ON TRAINING PROGRAMME | 17th–19th & 24th–26th MARCH 2025

Advancing Food Safety through Packaging Innovation

With the growing importance of packaging in food safety and shelf life, the Centre of Excellence in Food Processing and Packaging Technology, Faculty of Fisheries Engineering, Kerala University of Fisheries and Ocean Studies (KUFOS), organized a three-day hands-on training programme titled **“Packaging Mastery: Instrumental Techniques for Food Packaging.”**

The training was conducted in two batches from 17th–19th March 2025 and 24th–26th March 2025, from 10:00 AM to 4:00 PM, with 13 students in each batch. The objective of the program was to equip students with practical skills and industry-relevant knowledge in evaluating and improving packaging quality.

Participants actively engaged in conducting a variety of instrumental tests crucial to packaging evaluation.

- Bursting Strength
- Puncture Resistance
- Drop Test
- Thickness Measurement
- Gas Transmission Rate (GTR)
- Tear Strength

Each test was demonstrated with real-time packaging samples to help students understand their purpose and impact on packaging integrity. The hands-on experience provided valuable insight into the scientific and technical aspects of packaging, bridging the gap between classroom theory and industrial application.



The programme was coordinated by Dr. Lakshmi E Jayachandran (Assistant Professor, CEFPT, KUFOS), and the certificates were distributed under the leadership of Dr. M.K. Sajeewan (Dean, FFE, KUFOS). The well-structured training enabled students to build competence and confidence in modern packaging techniques. All participants were awarded certificates recognizing their successful completion of the programme, which stands as a stepping stone for their future in food processing and packaging careers.

Achievements Of the



Dr. Anooja Thomas K
Co-Ordinator, SFST

**Distinguished Researcher
Food Science and Nutrition**



Prabhakaran P

**Essay writing Tamil 2nd prize
Short story writing Tamil 3rd prize
Poetry writing Tamil 3rd prize**

PLACEMENTS



Mariam S Thunjath

**Young Professional on temporary
basis at NIFTEM-Thanjavur.**

ements Year



Dr. Linu M Salim
(Asst.Professor)

Young Scientist Award, Griast, 2025
Outstanding Woman Researcher in
Microbiology Award 2025, viwa 2025



Sivapriya K.C
Research Scholar

Poster Presentation on the topic "
Impact of Malting on Proximate,
Functional, Antioxidants and Anti-
Nutritional Factors in CFMV-2 "at
KSCSTE 2025 held at Kerala Agricultural
University, Thrissur

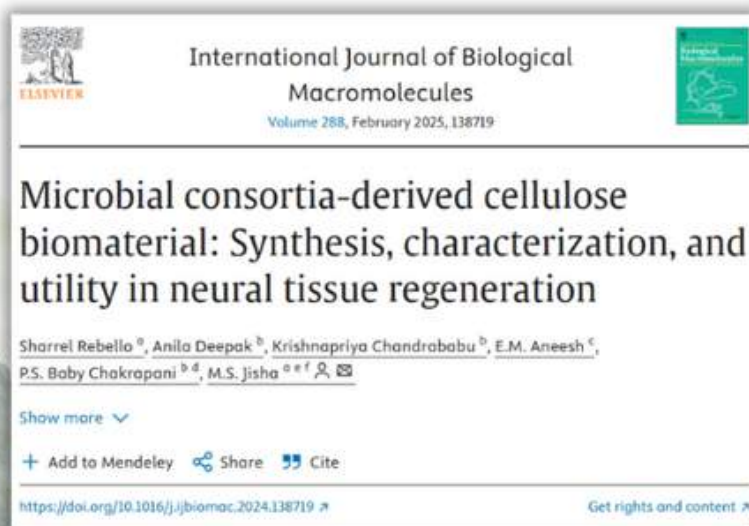
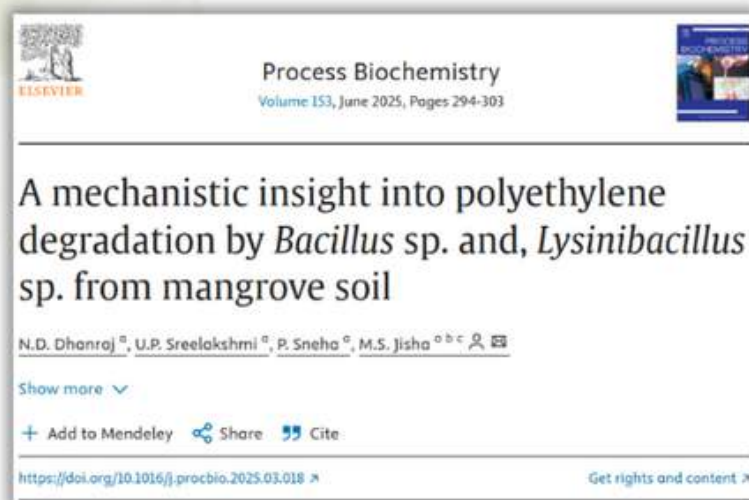
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Anjana R

Young Professional on temporary
basis at NIFTEM-Thanjavur.

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buttermilk enriched with encapsulated banana pseudostem extract. *Journal of Food Science and Technology*, 57(1), 1–10.

d with encapsulated

ohni"
uzha, Kottayam, Kerala, India
echnology, Department of Food

potentially rich source of phenolics and flavonoids which act as antioxidants and free radical scavengers. These bioactive compounds are present in the extract and their extract may impart health benefits. Encapsulation of the extract can overcome these shortcomings. This study aimed to develop a banana pseudostem extract from the banana pseudostem using alginate-based wall material. The study involved developing an enriched banana pseudostem extract, developing an encapsulated banana pseudostem extract, and evaluating its stability and nutritious option. The study was performed using high-speed homogenization as the wall material. The banana pseudostem and its encapsulated extract had a total phenolic content of 10.62±0.21 mg GAE/g and 10.62±0.21 mg GAE/100 mL, respectively. Both the extract and the encapsulated extract demonstrated significant antioxidant activity as determined by DPPH radical scavenging activity. The encapsulated extract showed strong activity. The encapsulated extract was used for developing banana-spiced buttermilk for developing a study of the enriched buttermilk stored under refrigerated conditions. The product remains acceptable for over 30 days. The study showed good scores across various sensory attributes. In conclusion, it can be concluded that the encapsulated buttermilk is feasible, providing good health benefits.

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REVIEW



Biotechnological advances in plant growth-promoting rhizobacteria for sustainable agriculture

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Abstract

The rhizosphere, the soil zone surrounding plant roots, serves as a reservoir for numerous beneficial microorganisms that enhance plant productivity and crop yield, with substantial potential for application as biofertilizers. These microbes play critical roles in ecological processes such as nutrient recycling, organic matter decomposition, and mineralization. Plant growth-promoting rhizobacteria (PGPR) represent a promising tool for sustainable agriculture, enabling green management of crop health and growth, being eco-friendly alternatives to replace chemical fertilizers and pesticides. In this sense, biotechnological advancements respecting genomics and gene editing have been crucial to develop microbiome engineering which is pivotal in developing microbial consortia to improve crop production. Genome mining, which involves comprehensive analysis of the entire genome sequence data of PGPR, is crucial for identifying genes encoding valuable bacterial enzymes and metabolites. The CRISPR-Cas system, a cutting-edge genome-editing technology, has shown significant promise in beneficial microbial species. Advances in genetic engineering, particularly CRISPR-Cas, have markedly enhanced grain output, plant biomass, resistance to pests, and the sensory and nutritional quality of crops. There has been a great advance about the use of PGPR in important crops; however, there is a need to go further studying synthetic microbial communities, microbiome engineering, and gene editing approaches in field trials. This review focuses on future research directions involving several factors and topics around the use of PGPR putting special emphasis on biotechnological advances.

Keywords Microbial biotechnology · Plant-microbe interaction · Rhizospheric microbiome · Plant growth-promoting rhizobacteria (PGPR) · Microbiome engineering · Gene editing



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