



microorganisms



Special Issue Reprint

Special Abilities of Microbes and Their Application in Agro-Biology

www.mdpi.com/books/reprint/9778

Edited by
Anuj Ranjan
Vishnu D. Rajput
Abhishek Chauhan

ISBN 978-3-7258-1704-7 (Hardback)
ISBN 978-3-7258-1703-0 (PDF)



Amid the growing challenges posed by climate change, securing global food security has never been more critical. This imperative is at the heart of the United Nations' "Zero Hunger" SDG. This reprint unveils the innovational role of microbial-based biofertilizers in creating sustainable agricultural solutions. Microbes, resilient and adaptable, thrive in the most extreme environments on Earth—from the icy polar regions and searing hot springs to polluted and arid lands. Their extraordinary adaptability, driven by unique biochemical and physiological mechanisms, equips them with the ability to produce essential enzymes and metabolites. These capabilities are harnessed to support sustainable agriculture, particularly in enhancing soil fertility and crop production under diverse environmental stressors. It meticulously documents case studies demonstrating the efficacy of such microbes as biofertilizers, bio-stimulants, and biopesticides, which perfectly align with sustainable agriculture and circular economy principles. This is a vital resource for students, researchers, scholars, and policymakers. It provides insights into how microbial solutions can be strategically implemented to promote sustainable agricultural practices that work in harmony with nature. As we navigate the complexities of climate change, this volume serves as a beacon of hope, illustrating how leveraging the special abilities of microbes can lead to a resilient and sustainable agricultural future.



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/9778

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.