

New Age Agricultural Bioinputs

14

Bhavana V. Mohite, Sunil H. Koli, Hemant P. Borase, Jamatsing D. Rajput, Chandrakant P. Narkhede, Vikas S. Patil, and Satish V. Patil

14.1 Introduction

Nitrogen-based biofertilizers are significant bioinputs, but according to current environmental changes and ever-increasing food demand, it is the need of time to popularize more efficient bioinputs for soil. These bioinputs will help to fight against problems like an unpredictable monsoon, global warming, and decreasing soil fertility, and indiscriminate use of agrochemicals.

Besides chemical fertilizers, organic soil conditioners, the application of phosphate solubilizers, nitrogen fixers, and *Trichoderma*, *Verticillium*, *Metarhizium* like versatile biocontrolling agents are the common strategies of soil conditioning. In the past 50 years, there is tremendous work published on nitrogen fixers and phosphate solubilizers. The results of these findings directed to the exploitation of common biofertilizers like *Azotobacter* and *Rhizobium* as a nitrogen fixer and other organic inputs. In addition to above, phosphate, zinc, sulphur, potassium solubilizers are a

H. P. Borase

V. S. Patil

S. V. Patil (🖂)

B. V. Mohite · S. H. Koli · J. D. Rajput · C. P. Narkhede

School of Life Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon, Maharashtra, India

School of Life Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon, Maharashtra, India

C. G. Bhakta Institute of Biotechnology, Uka Tarsadia University, Surat, Gujarat, India

University Institute of Chemical Technology, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon, Maharashtra, India

School of Life Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon, Maharashtra, India

North Maharashtra Microbial Culture Collection Centre (NMCC), Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon, Maharashtra, India

[©] Springer Nature Singapore Pte Ltd. 2019

D. P. Singh et al. (eds.), *Microbial Interventions in Agriculture and Environment*, https://doi.org/10.1007/978-981-13-8391-5_14