

**Format for Online Annual/Final Report**

1. Project Title: **Development of Agro-ecological Zone Specific Microbial Blue Print for Implication in Sustainable Agriculture**
2. Sanction No.:
3. Date of Start: September, 2015
4. Date of Termination: August, 2017
5. Actual Location: ICAR-National Bureau of Agriculturally Important Microorganisms (ICAR-NBAIM), Kushmaur, Maunath Bhanjan 275 103, U.P. (India)
6. Principal Investigator (CV to be provided)  
Name: Sushil K. Sharma  
Designation: Principal Scientist (Agricultural Microbiology)  
Division/Section: NA  
Address: ICAR-National Bureau of Agriculturally Important Microorganisms (ICAR-NBAIM), Kushmaur, Maunath Bhanjan 275 103, U.P. (India)
7. Co-Investigator  
Name: Udai B. Singh  
Designation: Scientist (Plant Pathology)  
Division/Section: NA  
Address: ICAR-National Bureau of Agriculturally Important Microorganisms (ICAR-NBAIM), Kushmaur, Maunath Bhanjan 275 103, U.P. (India)  
Co-Investigator  
Name: Pramod K. Sahu  
Designation: Scientist (Agricultural Microbiology)  
Division/Section: NA  
Address: ICAR-National Bureau of Agriculturally Important Microorganisms (ICAR-NBAIM), Kushmaur, Maunath Bhanjan 275 103, U.P. (India)  
Co-Investigator  
Name: A. Ramesh  
Designation: Senior Scientist (Soil Sciences)  
Division/Section: NA

Address: ICAR-Indian Institute of Soybean Research, Khandwa Road, Indore-452 0101,  
M.P. (India)

8. Duration of Project: 2 Year

9. Total amount sanctioned: (in case of extension): 13 Lakh for the Financial Year 2015-16

10. Total amount spent:

11. Result of Practical/Scientific Value: (200 chrs)

Rhizospheric soil of eight districts of AEZ-10 (Madhya Pradesh) was found rich in phosphorus- and zinc- solubilizing bacteria which indicate its role in P and Zn nutrition of plants in AEZ-10 that is deficient in the P and Zn content. This study will lead to prepare a structural blue print of such specific bacterial community that could be used to mitigate problem of P and Zn in both crops and human health.

12. Papers Published: (300 chrs): Nil

(i) Papers published in peer reviewed journal (NAAS rating may be given): Nil

(ii) Papers presented at scientific meetings: Nil

(iii) Manuscripts under preparation: Nil

13. Patents and products developed: (300 chrs) Nil

14. Detailed Progress Report (to be annexed): (400 chrs)

Two explorations were undertaken in the 6 months covering eight districts namely Indore, Khargaon, Jabalpur, Sagar, Tikamgarh, Chhatarpur, Panna and Katni of Madhya Pradesh (AEZ-10). Forty five (45) rhizosphere soil and plant samples were collected from these districts. So far, around 100 bacterial isolates with diverse morphology were recovered from 20 samples using five different media with and without enrichment so as to harvest maximum diversity. Of 100 isolates, 40 isolates were characterized for phosphate and zinc solubilization ability. Among 40 isolates tested, 36 isolates showed phosphate solubilization ability and 26 isolate discerned zinc phosphate solubilization properties, whereas 22 isolates possessed both the properties. Further isolation, functional characterization and identification of bacterial isolates through biochemical and molecular approaches are underway.

15. Signature:

Principal Investigator: Sushil K. Sharma

Designation: Principal Scientist

Date:

Director or Head of Institution/Station:

16. Comments of the Lead Centre Platform Coordinator:

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17. Remarks of the SMD:

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