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**VSU RESEARCH QUARTERLY REPORT OF ACCOMPLISHMENT**

**[January to March, 2023]  
Quarter: 1<sup>st</sup>**

**I. Program/Project/Study Objectives**

Project Title: ***Characterization and Quality Assessment of Locally made Biofertilizers***

Study 1 : **Microbial and Molecular Analysis of Biofertilizers Developed at VSU (Piamonte, RT)**

**Objectives:**

**General:**

To evaluate the quality, characteristics, and effectiveness of different biofertilizer products developed at VSU.

**Specific:**

**A. Study 1**

1. To determine the temporal variation in microbial population density in biofertilizers developed at VSU.
2. To characterize the microbial isolates obtained from the biofertilizer products of VSU.
3. To profile the microbial species richness of the biofertilizer products of VSU using molecular approach.

**II. Relevance to VSU & College's Thrust and Priorities: Relevant**

### III. Highlights of accomplishments within the quarter

#### Study 1: Microbial and Molecular Analysis of Biofertilizers Developed at VSU

##### Targets and Highlights of Accomplishments

Targets for the quarter	Highlights of accomplishments
1. Revival of microbial isolates derived from different VSU biofertilizers for DNA extraction.	Revived microbial isolates from LABS, EM, IMO2 and VSU vermicast for DNA extraction including <i>E. coli</i> in preparation for the test of human pathogens present in biofertilizers
2. DNA extraction of purified microbial isolates from LABS, EM, IMO2 and VSU vermicast derived from different VSU biofertilizers.	Extracted high quality DNA of the revived microbial isolates. DNA extracts were PCR assayed using species specific primers.
3. Reconstitution of available species-specific primers	Reconstituted primers for PCR assays.
4. Procurement of primers necessary for molecular identification of microbial isolates.	Procured primers for molecular identification of microbial isolates derived from different VSU biofertilizers.
5. Optimization of PCR condition of primers for molecular identification of microbial isolates.	Optimized PRC condition of primer pair EN1 R and EN1 F.

### IV. Physical Report of Operation

#### A. Research Program

	Particulars/Name and Brief Description of Utilized/ Commercialized Technologies	Number
<b>Outcome Indicator</b>		
1. Number of research outputs utilized by the industry or by other beneficiaries	None	
<b>Output Indicator</b>		
1. Number of research outputs completed within the year	None	
2. Percentage of research outputs published in internationally-referred or CHED recognized journal within the year	None	

**Vision:** A globally competitive university for science, technology, and environmental conservation.

**Mission:** Development of a highly competitive human resource, cutting-edge scientific knowledge and innovative technologies for sustainable communities and environment.

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No.

### B. Technologies/Information patented and commercialized

Technology Invention(s) New Information	Invention Patent Number	Date of Issue	Utilization of Invention		Name of Commercial Product
			Development	Service	
A. Technology Invention(s)	NA				
B. New Information	NA				

	Title	Author (s)	Date/Year/Publication/ Publisher	Remarks (if Research, Extension, Innovation, Thesis, MSc/PhD)
a. Refereed Journal	None			
Institutional				
National				
International				
b. Semi-popular publ'n (newsletter, etc.)				
c. Popularized publ'n (technoguides, etc.)				
d. Book Chapter/s				
e. Books				

### C. Citation

Research Output as Cited by Other Researcher(s) in Journal Activities									
Title of Research Output/ Published Journal Articles/ Book	Title of Journal & Vol. Issue/ Year	Keywords	Researcher (s)	Citation Details					
				Author(s) Who Cited the Research Output	Title of Article Where the Research Output Was Cited	Title of Journal	Vol. / Issue / Page No.	City/ Year Published	Publisher
None									



## V. Issues, Problems and Recommendations

- Prolonged power outage specifically at the NARC Diagnostic Laboratory (at the new NARC Building) hinder the PCR assay activities of the study.

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Endorsed by :   
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Center Director

Date Submitted: \_\_\_\_\_

Received by OVPREI-RPO: \_\_\_\_\_

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