



QUARTERLY RESEARCH PROGRESS REPORT
QUARTER: 2nd (April - June 2022)

Research Title: Characterization and Quality Assessment of
Locally Made Biofertilizers

I. Program/Project/Study Objectives (*Please specify if it is a program/
project/study*):

- Study 1 : Microbial and Molecular Analysis of Biofertilizers Developed at VSU (RTPiamonte)
Study 2 : Physico-Chemical and Biochemical Characterization of Locally made Biofertilizers in VSU- EcoFARMI (for 2022) (RBArmecin)
Study 3 : Field Evaluation of Locally Made Biofertilizers to a Selected Crops (RBArmecin and RTPiamonte)

Objectives

General Objective:

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

Specific objectives:

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.

Study 2

1. To determine the temporal variation in physico-chemical and biochemical composition of biofertilizer products of VSU.

Study 3

1. To evaluate the efficacy of biofertilizer products of VSU in the field.

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*

a. Targets for the quarter

- Microbial population density analysis for LABS, EM, IMO2 and VSU vermicast.
- Isolation of potential microorganisms from LABS, EM, IMO2 and VSU vermicast.
- Cultural microbial colony characterization of microbial isolates from LABS, EM, IMO2 and VSU vermicast.
- Procurement of PCR reagents for molecular identification of microbial isolates derived from different VSU biofertilizers.

b. Highlights of accomplishments

- The microbial load (colony count) of LABS, EM, IMO2 and VSU Vermicast biofertilizers was determined.
- Isolated microbes from LABS, EM, IMO2 and VSU Vermicast biofertilizers into pure culture.
- Characterized the pure culture isolates as to its colony form, margin, color and density.
- Procured PCR reagents for molecular identification of microbial isolates derived from different VSU biofertilizers.

Study 2: *Temporal Variation in Physico-Chemical and Bio-Chemical Composition of Locally made Biofertilizers*

a. Targets for the quarter

- Sample preparation and collection
- Biochemical and nutrient analysis

b. Highlights of accomplishments

- LABS, EM and VSU Vermicast biofertilizers were prepared and samples were collected.
- Analysed biochemical and nutrient analysis (pH, EC, %P and %N) on LABS, EM and VSU VERMICAST biofertilizers.

Study 3: **Evaluation of the Efficacy of Biofertilizers on Selected Crops**

- To be conducted after the completion of Study 1 and Study 2.

Other Project Accomplishments:

- Prepared and submitted the 2nd Quarterly Progress Report 2022
- Prepared and submitted the Semi-annual and Annual Progress Report 2022

IV. Physical Report of Operation

A. Research Program

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

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) | None | None | None | None | None |
| | | | | | |
| B. New Information | None | None | None | None | None |

C. Research papers published (Identify if articles were for Research, Extension, Innovation or MSc/ PhD Studies)

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

D. 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 | None | None | None | None | None | None | None | None | |
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V. Issues, Problems, and Recommendations

1. Laboratory activities were hampered due to typhoon Odette and Agaton/ restricted because of the COVID-19 pandemic.

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Project Leader

Endorsed by : **DHENBER C. LUSANTA**
OIC Director, Eco-FARMI

Date Submitted : July 5, 2022

Received by OVPREI-RPO: _____

Date Received : _____