VISAYAS STATE UNIVERSITY

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QUARTERLY RESEARCH PROGRESS REPORT
QUARTER: 2nd

On-going Research Projects:

(1) Research Title: Bioactivity and molecular characterization of lead compounds from candidate antidiabetic indigenous plants

Highlights of accomplishments

- Qualitative phytochemical analysis of plant samples
- Ready-to-use newly extracted plant samples
- Data on alpha-glucosidase inhibition assay, i.e., IC50, enzyme kinetics
- Stored 3T3-L1 pre-adipocytes at PCC
- Cytotoxic profile of plant samples using 3T3-L1 cells
- Preliminary analysis of differentiated adipocyte cells for glucose uptake and lipid droplet accumulation

(2) Research Title: Nanomaterial-encapsulated microbial inoculant as tuber sett coating to enhance growth, yield and micronutrient uptake of purple yam

Highlights of accomplishments

- Encapsulated *B. megaterium* in nanomaterial-alginate microbeads
- Prepared the screenhouse and other materials to be used in the pot experiment of purple yam
- Analyzed soil samples for pH and submitted soil samples to Central Analytical Services Laboratory (CASL) for micronutrient (Fe, Cu and Zn) analysis
- Pot experiment of purple yam with nanomaterial-encapsulated microbial inoculant microbeads as coating
- Confirmed the bacteria by inoculating it in Bacillus *ChromoSelect* Agar (Bacillus cereus *ChromoSelect* Agar)
- Evaluated the encapsulated microbial inoculant with its particle size
- Prepared and applied fertilizers after one month of planting

(3) Research Title: Biological Activity and Chemistry of Essential Oils for Agriculture, Pharmaceuticals and Industry

Highlights of accomplishments

- Essential oils from three (3) species among 10 species selected were extracted