Description:
The product is called BIOTECH Nano-Plant Growth Regulator. The BIOTECH Nano-Plant Growth Regulator™ is a product formulated at the Nanobiotechnology Laboratory of the National Institute of Molecular Biology and Biotechnology (BIOTECH), University of the Philippines Los Baños (UPLB). The plant growth regulators namely auxin, cytokinin and gibberellin were derived from locally isolated PGPB. Auxins, mainly indole-3-acetic acid (IAA), play a critical role in numerous plant growth processes, such as embryo development, root and flower development, vascular differentiation, stem elongation, apical dominance, and tropic responses. Cytokinins influence physiological and developmental processes of plants such as cell division, seed germination, root development, accumulation of chlorophyll, leaf expansion and delay of senescence. Gibberellins (GAs) stimulate stem elongation and seed germination. Stimulation of flowering is another effect of exogenously applied GA. They are the only group of chemicals that are known to perform this specific function. Chemical and molecular studies on the production of the three (3) plant growth regulators by locally isolated PGPB were conducted through a BIOTECH-UPLB-PCAARRD project.

Each of the PGPB-derived plant growth regulators was formulated to improve solubility and increase penetration in plant tissues though funding from DOST-TECHNICOM with monitoring by PCIEERD. Preliminary efficacy trials showed enhanced rooting in sweet pepper, cassava, coffee, ampalaya and selected ornamentals using the BIOTECH Nano-Plant Growth Regulator™. Promising results were also observed in terms of yield in cassava and plant development in the tissue culture of coconut and banana when compared to imported and commercially available plant hormones.

Problem Being Addressed
The problem is the use of synthetic and toxic chemicals and the inefficient absorption of agricultural inputs such as fertilizers and nutrients by plants.
Solution to Problem
To address these problems, we prepared a controlled release formulation of plant hormones derived from naturally occurring plant growth promoting bacteria.

How to Bring this Product to the Market
We are focusing our market to banana, cacao and coffee plantations/farms/industry. We plan to license the product to an investor who will be an area distributor in various regions of the country.

Current Status of Technology
We are currently conducting efficacy tests and upscale production of the product. We also plan to apply for intellectual property protection and FPA product registration this year.

Requirement
We need collaborators for efficacy tests and private investors for continuous funding of our on-going efficacy tests and upscale studies.

Funding agencies

Contact Person

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