NEW BIOLOGICAL CONTROL STRATEGY AGAINST BLACK WEEVIL (COSMOPOLITES SORDIDUS) IN BANANA CROPS

PATENTED TECHNOLOGY

CONTACT DETAILS:

Research Results Transfer Office-OTRI
University of Alicante
Tel.: +34 96 590 99 59
Email: areaempresas@ua.es
http://innoua.ua.es

ABSTRACT

The *Phytopathology* research group of the University of Alicante has discovered seven volatile organic compounds (VOCs) naturally present in entomopathogenic and nematophages fungi that act as repellents of the black weevil (*Cosmopolites sordidus*) in a selective, specific and very effective way.

By incorporating these compounds, alone or in combination, into any formulation, the biological control of the black weevil plague is achieved in a sustainable and environmentally friendly way.

These VOCs can be obtained from fungi (*Beauveria bassiana, Metarhizium anisopliae, Pochonia clamydosporia*) or by chemical synthesis -which it enables a very economic production cost and, therefore, an interesting way of marketing worldwide-.

These compounds can be impregnated in slow release devices, and they have their direct application in the field of agrobiotechnology, agriculture and horticulture, both for biological control of adult black weevil insects and to prevent infections in banana crops.

It is looking for companies interested in acquiring this technology for commercial exploitation.

ADVANTAGES AND INNOVATIVE ASPECTS

ADVANTAGES OF THE TECHNOLOGY

- New **selective** and **specific** treatment against **black weevil** (*Cosmopolites sordidus*) pest.
- It allows the execution of a **new control strategy** based on **repellent** properties.
- These are **natural compounds** for **biological control**.
- Source for obtaining these active principles (VOCs) come from metabolism of entomopathogenic and nematophagous fungi, so it is an **environmentally friendly technology**.
- Another source of VOCs is chemical synthesis, so the **cost of producing** these repellent compounds is **very economical**.
- A new formulation can be developed to **effective**, **efficient** and **sustainable control** of the pest.
- The formulation **prevents the invasion** of the **black weevil in banana crops** (*Musa sp*).
- These compounds allow **application** and **dosage** on a **large scale**.

INNOVATIVE ASPECTS OF THE TECHNOLOGY

A **novel repellent composition** for the **black weevil of banana crops** has been developed from volatile organic compounds identified in entomopathogenic and nematophages fungi.

This invention is characterized because **it is not necessary to use the entire microorganism**, but simply **any of its seven metabolites** (VOCs), alone or in combination, which it simplifies the production process of the formulated, as they can be obtained by chemical synthesis at a **very low cost**.

In addition, it is an environmentally friendly **biological control** strategy **specifically** against the black weevil.

MARKET APPLICATIONS

This technology is framed in the field of **agrobiotechnology**, **agriculture** and **horticulture**. In particular, it refers to a new formulation containing volatile organic compounds such as **black weevil repellents** (*Cosmopolites sordidus*).

Therefore, this invention finds its application in the **biological control** and **sustainable management** of adult black weevil insects in banana crops.

COLLABORATION SOUGHT

It is looking for companies interested in acquiring this technology for **commercial exploitation** through patent **license agreement**.