

Bacterial Biocontrol of Plant Pathogens

Tech ID: 23822 / UC Case 2014-377-0

ABSTRACT

Researchers at the University of California, Davis have developed a safe, simple and cost-effective method of preventing fungal wilt - without resorting to chemical or transgenic means./p>

FULL DESCRIPTION

Fungi and water molds can be devastating to commercial crops. Specifically, *Fusarium oxysporum* is a highly detrimental plant pathogen for many economically-significant crops - including tomatoes, legumes, bananas and sweet potatoes. Negative effects to crops exposed to these pathogens can include reduced yields, discoloration and poor plant health. Most current solutions aimed at combatting these pathogens involve synthetically-derived chemicals - which are often both expensive to the grower and toxic to the environment.

Researchers have discovered a synergistic effect between two benign and otherwise unassociated microorganisms. These microorganisms protect plants against infection and associated wilt symptoms from various fungal pathogens - including *F. oxysporum* and a potential array of other fungal and water mold pathogens. This protection far exceeds the efficacy of current methods. Additionally, it allows for natural pest control without the expense and toxicity issues associated with chemical pesticides. The result is a safe, simple and efficient treatment for potentially devastating pathogens that affect multiple commercial crops.

APPLICATIONS

- ▶ Protection from Fusarium wilt and potentially a broad array of plant pathogens

FEATURES/BENEFITS

- ▶ More effective against Fusarium wilt than currently-available biocontrol products
- ▶ Natural product that does not require chemical pesticides, antibiotics, or GMOs
- ▶ Reduces both grower costs and environmental toxicity
- ▶ Can be used both for treatment and prevention of fungal infection

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,485,994	11/08/2016	2014-377

RELATED MATERIALS

- ▶ [Antimycotal Activity of Collimonas Isolates and Synergy-Based Biological Control of Fusarium Wilt of Tomato](#) Hung K. Doan, Nilesh N. Maharaj, Kaitlyn N. Kelly, Eugene M. Miyao, R. Michael Davis, and Johan H. J. Leveau - 01/28/2021

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OTHER INFORMATION

KEYWORDS

Plant Pathogen,
 Biocontrol, Fusarium Wilt,
 Pathogenic Fungi, Crop
 Protection

CATEGORIZED AS

- ▶ **Agriculture & Animal Science**
 - ▶ Other
- ▶ **Materials & Chemicals**
 - ▶ Agricultural
 - ▶ Biological
 - ▶ Pesticides and Insecticides

RELATED CASES

2014-377-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

► [Isolation and Characterization of Bacterial Isolates Collimonas SP.CAL1 AND CAL2](#)

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