Novel Multiplex Assay Detects Citrus Pathogens

Tech ID: 24385 / UC Case 2014-045-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,273,547	04/30/2019	2014-045

IMAGES





Photo from Agricultural Research Service

Photo by Mmacbeth

BRIEF DESCRIPTION

Background:

Citrus greening disease, also known as huanglongbing (HLB), has been a serious, pervasive problem caused by a multitude of plant pathogens. It has decimated many citrus trees, drastically decreasing orange production and costing the US economy an estimated $11B every year. Currently, there is no cure for HLB, so the citrus industry is in dire need for a cost-effective method of early HLB detection.

Brief Description:

CONTACT

Rekha Chawla
rekha.chawla@ucr.edu
tel: .

OTHER INFORMATION

KEYWORDS

fresh fruit, global foods, citrus, citrus canker, citrus stubborn disease, pathogen detection, HLB, Citrus Variegated Chlorosis

CATEGORIZED AS

- Agriculture & Animal Science
  - Other
  - Plant Traits
  - Plant Varieties

RELATED CASES

2014-045-0

UCR Researchers have developed a means to detect and identify multiple plant pathogens for disease diagnosis, including citrus greening disease. By developing a novel multiplex RNA assay, they discovered ten targets of nine citrus pathogens and a citrus control gene. In addition to the assays, target-specific probes were designed and implemented to improve the pathogen detection process. These assays were also coupled with high-throughput robotic extraction and purification procedures, optimized for citrus tissues. Furthermore, they also developed a 3-plex DNA assay system along with 3 targets for simultaneous detection, identification and quantification of plant pathogens.

ADVANTAGES

- Increases uniformity and cost effectiveness
- User-friendly assay procedures
- Simultaneous detection, identification and quantification for the ten targets

APPLICATIONS

- Detection of endemic and exotic plant pathogens
- Plant health monitoring services
- Citrus disease management

University of California, Riverside

Office of Technology Commercialization

200 University Office Building,

Riverside,CA 92521

otc@ucr.edu

https://research.ucr.edu/

Terms of use | Privacy Notice | © 2014 - 2019, The Regents of the University of California