International Journal of
Life Sciences
International Peer Reviewed Open Access Refereed Journal

Int. J. of Life Sciences, 2021; 9 (2):XXX-XXX
ISSN:2320-7817(p) | 2320-964X(o)

Research Article

Open Access

Isolation and study of bacteriophage of citrus canker causing bacterial pathogen

Gokule Kajal[1], Ahiwale Sangita[2] and Walhe Rajan[1]*

[1]MES' AbasahebGarware College, Pune. India
[2] Rayat Shikshan Sanstha's Mahatma Phule Mahavidyalay, Pimpri, Pune. India
*Corresponding author: E-mail: rawalhe@rediffmail.com

Manuscript details:
Received: 07.05.2020
Accepted: 22.05.2021
Published: 31.05.2021

Cite this article as:
Gokule Kajal, Ahiwale Sangita and Walhe Rajan (2021) Isolation and study of bacteriophage of citrus canker causing bacterial pathogen, *Int. J. of Life Sciences*, 9 (2): XXX-XXX.

Available online on http://www.ijlsci.in
ISSN: 2320-964X (Online)
ISSN: 2320-7817 (Print)

ABSTRACT

India is at second position in the world in agricultural yield of fruits and vegetables. Citrus fruit is one of the most widely produced fruit crop globally. The five groups of cultivated citrus include sweet orange, mandarins, grapefruits, pommel and the oft-grouped lemons and limes. Limes are of vast economic value and find its place in Asian cuisines. Many species of citrus plants are susceptible to the infections and disease caused by bacteria, fungi, viruses, etc. Citrus canker is a frightening bacterial disease of all citrus crops, caused by *Xanthomonasaxonopodis*. Plant diseases could be controlled by variety of ways including chemical, biological, resistance breeding, etc. Phages were discovered against plant pathogens almost a century ago but only recently been assessed for their use as biological control agents. Bacteriophages of citrus canker bacteria were first isolated and evaluated for its host specific properties in India. In the present work, two citrus canker causing bacterial cultures were isolated from citrus canker infected lime leaves. From water samples, bacteriophages were isolated which lysed the citrus canker causing bacteria tested with double agar layer plaque assay technique.

Keywords: Plant pathogen, Xanthomonas sp., Bacteriophage, Citrus cancer.

INTRODUCTION

Agriculture yield in Indian field is the main source of food stuff of fruits and vegetables in that India is the second country after China in the world in its production (Neeraj et.al.2017). Citrus fruit is the most widely produced fruit crop globally. The Citrus species are diploids and domesticated in Southeast Asia before thousands of years and then spread all over the world (Oilitrault and Navarro, 2012). Citrus is world's leading fruit crop with annual growth of approximate 60 million megatons. These include five groups of cultivated citrus: sweet oranges, mandarins, grapefruits, pommel and the oft-grouped lemons and limes (Donkersley *et al.* 2018). Limes are of great economic significance and way to Asian