EuroSciCon

International Conference on
Biotechnology, Biomarkers & Systems Biology

March 04-05, 2019
Amsterdam, Netherlands

Biochem Mol biol J 2019, Volume:5
DOI: 10.21767/2471-8084-C1-024

BACTERIOPHAGES AS BIOTECHNOLOGICAL TOOL AGAINST BACTERIAL PLANT PATHOGENS

Luis Alberto Lightbourn Rojas
Instituto de Investigación Lightbourn, Mexico

Bacterial pathogens are associated with numerous plant diseases and can account for major economic losses to agricultural production. Currently, the plant disease management involving the use of traditional chemicals or antibiotics are losing their efficacy due to the natural development of bacterial resistance to these agents. Bacterial outbreaks are generally problematic to control due to lack of effective bactericides and to resistance development. Most effective plant disease management approaches require an integrated strategy utilizing cultural practices, and biological control agents. In this regard, bacteriophages (also called phages) offer an alternative to conventional management strategies for controlling bacterial plant diseases. Phages are viruses that specifically infect bacteria yet have no direct negative effects on animals or plants. Infection of a bacterium by a virulent phage typically results in rapid viral replication, followed by the lysis of the bacterium and the release of progeny phages. Therefore, phages can be used effectively as part of integrated disease management strategies. A suitable phage candidate for effective biocontrol should have a sufficiently broad host range against a wide variety of strains, which is known as a polyvalent bacteriophage. The relative ease of preparing phage treatments and low cost of production of these agents make them good candidates for widespread in crop protection. Phages have potential for use in integrated disease management strategies, which the phages provided additional reduction in disease and resulted in more efficient foliar disease control than copper-macozeb.

lalr@bioteksa.com