RAMPAZO, Luís Gustavo de Lázaro. **Isolation of *Xanthomonas axonopodis* pv. *citri* bacteriophages.** Londrina, 2002. Monografia (Bacharelado em Ciências Biológicas) – Universidade Estadual de Londrina.

ABSTRACT

Discovered in the early XX Century, the bacteriophages were readily seen as therapy for bacterial infections. After being substituted by antibiotics and contributed for the origin of Molecular Genetics, its application became restricted only to researches carried out at former Soviet Institutes. Nowadays, the interest on bacteriophages resurged, justified by the increase of antibiotic-resistant bacteria, besides the treatment of incurable infections, such as citrus canker. This phytopathology, caused by *Xanthomonas axonopodis* pv. *citri*, although innocuous to humans, is a severe disease for the citriculture. The goal of this work was isolate *X. axonopodis* pv. *citri* 306 bacteriophages, the same strain used in the Genome project, from environmental samples. Among the methods tested, such as filtration, centrifugation and chloroform treatment for the isolation of the bacteriophages, the last one was considered the more efficient. Bacteriophages were purified by inoculation in a host culture and by the elution of a lytic plaque, being both methods equally efficient. For storage, saline solution and nutrient broth were tested, at either temperatures of ~25ºC and ~7ºC. Despite the combination nutrient broth/~7ºC has shown more promising results, all the isolates lost the infectivity in two weeks. A lysogeny state of the host was verified, by the appearance of lytic plaques, when it was plated and exposed to UV light, indicating a possible supplantation of the immunity by the induction of obligately lytic “vir mutants”. Future studies ought be performed to improve the conservation of these bacteriophages without loosing their infectivity, and to evaluate their use in the biological control of citrus canker.