

Isolation, Control and Development of Antiserum from *Rastonia Solanacearum*

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Abstract

Irish potatoes is an important crop for rural and urban population in the world specifically in Kenya. potatoe wilt (*Rastonia solanacearum*) is the most damaging disease in Kenya leading to severe yield losses and even plant death. Bacteria wilt is one of the most destructive diseases of potato which has a very wide host range. Potato wilt bacteria are also known as brown rot, southern wilt, sore eye or jammyeye. There is an urgent need to screen or come up with a way of controlling this disease to stop explosive spread of the bacteria. The use of plants essential is a more biological way since most plant or crop protection methods involves application and use of toxic chemicals noxious to the environmental as a way of control mechanism. This is an ecologically friendly approach to control potato wilt bacteria without affecting the environment. Its introduction into Agricultural Practices minimizes the scope of chemical control thus contributing to the development of sustainable Agriculture. Famers, especially in Njoro region have been of late experiencing a lot of reduced Irish potatoes yield due prevalence of potato wilt. The purpose of this research is to study the control of potato wilt bacteria using plants essential oils of rosemary, mint, lavender and eucalyptus. The method used included collection of a diseased plants sample, isolation of the bacteria (*Ralstonia solanacearum*), culturing in nutrient agar Media and re-isolating to obtain a pure culture that is streaked using different types of plants essential oil and zones of inhibition are determined by measuring the diameter of clear zones. Data presentation of this research is in form of graphs. The data is then analyzed using Microsoft excel spread sheet and statistical package for social sciences (SPSS) Version 17.0 software.

Key words: *Rastonia solanacearum*, antiserum, Irish potatoes