

The potential of lactic acid bacteria in mediating the control of plant diseases and plant growth stimulation in crop production - A mini review

ABSTRACT

The microbial diseases cause significant damage in agriculture, resulting in major yield and quality losses. To control microbiological damage and promote plant growth, a number of chemical control agents such as pesticides, herbicides, and insecticides are available. However, the rising prevalence of chemical control agents has led to unintended consequences for agricultural quality, environmental devastation, and human health. Chemical agents are not naturally broken down by microbes and can be found in the soil and environment long after natural decomposition has occurred. As an alternative to chemical agents, biocontrol agents are employed to manage phytopathogens. Interest in lactic acid bacteria (LAB) research as another class of potentially useful bacteria against phytopathogens has increased in recent years. Due to the high level of biosafety, they possess and the processes they employ to stimulate plant growth, LAB is increasingly being recognized as a viable option. This paper will review the available information on the antagonistic and plant-promoting capabilities of LAB and its mechanisms of action as well as its limitation as BCA. This review aimed at underlining the benefits and inputs from LAB as potential alternatives to chemical usage in sustaining crop productivity.