

ENDOPHYTES: ROLE AND APPLICATIONS IN SUSTAINABLE AGRICULTURE

Neerja Rana* et al.,

Abstract

Intensive agriculture which depends on unmanageable processes of agrochemical inputs is environmentally dangerous. The development of these practices to fulfil needs isn't always economically viable. Different practical aspects must be taken into consideration to satisfy the global meals protection undertaking. The plant microbiome has been related to stepped forwards plant productiveness for decades. Rhizospheric bacteria were studied for their capability to promote crop growth and control pathogens. In recent years studies on endophytes have accelerated as a likely alternative to rhizobacteria, for the improvement of Microbial inoculants able to changing some agrochemicals and reducing the environmental impact of agronomic management of crops. This review summarizes the maximum vital characteristics and traits of endophytic microorganism. The presence of rhizomes in soil favours the boom of numerous microbial groups in its rhizosphere. Presently endophytic microorganisms are gaining attention through researchers because of their functionality to synthesizing novel bioactive compounds which might be useful in ailment management of phytopathogens, and some of these compounds are critical in novel drug discovery. For sustainable agriculture, several the bacterial and fungal endophytes can be used as plant and soil inoculants to enhance yield and productiveness of plants. Using endophytes as biofertilizers is beneficial and has no unfavorable consequences on the weather, or texture and productiveness of soils, unlike chemical fertilizers. These endophytes may be act as essential biofertilizers, biocontrol agent and help plants to cope up with biotic and abiotic stresses.

Key Words: Endophyte; Rhizome; Plant growth promoting; Biocontrol; Biofertilizer, pressure, sustainable agriculture