
ABSTRACT

The main question that has been addressed through this project is that the bacterial isolates that are present in the plant whether they are also available in the soil. We isolated 11 bacterial isolates from a brinjal plant, 6 bacterial isolates from a chilli plant and 24 bacterial isolates from soil taken from the field where the brinjal plant was cultivated. It is interesting to see several different bacteria remained potentially in the xylem of brinjal and chilli plants.

Cellulase production and twitching motility which are known to be associated with different plant pathogenic bacteria, these features were also observed in different isolates of plants as well as soil. Most of the bacterial isolates from plants we expect are potential endophyte, which remain associated with plants without causing any harm. Therefore, the observation of these features in these bacteria is of significant interest. In addition, several soil bacterial isolates are found positive for the above two characteristics. The contribution of these two qualities towards the survivability of soil bacteria is a future question to be addressed. Cellulase produced by soil bacteria may be helpful to live on dead plants. Twitching motility is observed in more than 50% of soil bacterial isolates in this study and this might be an important function to stressful condition in soil.

16S rDNA sequence was done for two of the isolates. By BLAST analysis it was found out that the isolates are either *Stenotrophomonas* or *Pseudomonas* because 100% identity was observed with the rDNA sequence of these two genus.