

EFFECT OF SEASONAL VARIATION ON *IN VITRO* CULTURE STUDIES OF *LAWSONIA INERMIS* L.

Lawsonia inermis L. (Henna) is commonly used in cosmetology. There is huge demand for henna in the local as well as global market. Due to increased demand for henna there has been indiscriminate uprooting of plants and mass collection of henna leaves by various small scale and large scale industries which has made the plant less conspicuous. To fulfill this demand *in vitro* culture studies were practiced. The plant requires warm temperature conditions for better production of dye content in the leaves.

The main problem occurs for *in vitro* culture studies during the rainy season. During the rainy season i.e from month July to October, bacterial infection was observed on leaf explants. The leaf shows black spots on both surfaces. When such leaves were used for *in vitro* studies it shows bacterial contamination. The microbial study of these infected leaves shows that the black spots were caused by *Xanthomonas lawsoniae*. In the winter season (November - February) the plant is infected by a fungus *Asterina lawsoniae*. During this period the infected leaves are shed and new leaves start to grow, but these new leaves are very delicate and can not be used for *in vitro* studies. Both the infections i.e. bacterial as well as fungal can not be cured by any chemical treatments given during inoculation. Therefore only summer season is suitable for *in vitro* culture studies of *Lawsonia inermis* L.

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