
shady tropical habitat. Plants were chosen due to their easy growth in all types of mediums tested in the laboratory. Plants require less maintenance, are fast growing.

Chosen experimental plants were purchased from local vendors. One year old experimental plants were grown in 4 inches diameter pot with 2 kg of potting mixture. Composition of the potting mixture was kept standard for growing all test plants. The standard composition used was vermicompost (1.5 kg)+enricher (1/2 kg)+1 gm activated charcoal+2 ml broth/froth *Sphingomonas* consortium. Activated charcoal is added to expand the absorption surface for pollutants.

Consortium of *Sphingomonas* is added to help the plant in metabolism of pollutants. *Sphingomonas* a group of bacteria helping in the process of phytoremediation is isolated in the laboratory from known sources. Horticultural practices were taken care of. The factors such as local growing conditions, growth pattern were studied.

Plants used in these experiments were kept for several weeks so that *Sphingomonas* gets translocated in different plant parts like leaves, stem etc. in more or less the same environmental conditions of lighting and temperature to minimize any stress resulting from the change in environment. A glass chamber, of 1m³ is used for the exposure experiments. Dimensions of glass chamber for control were 1m³. A battery-operated fan was placed in the chamber for continuous air circulation representing *in situ* conditions. Thermo-hygrometer (Humidity and temperature meter 920 p) was kept in the chamber for monitoring temperature and humidity

Results and Discussion

All plants were monitored for visible injury after exposure. Visible injury was not observed in all three replicates of plants as compared to control even after ten days. Treated plants did not show change in leaf color even after ten days. PII calculated after the treatment was 0. Initially air quality showed low level of pollution on advanced air quality

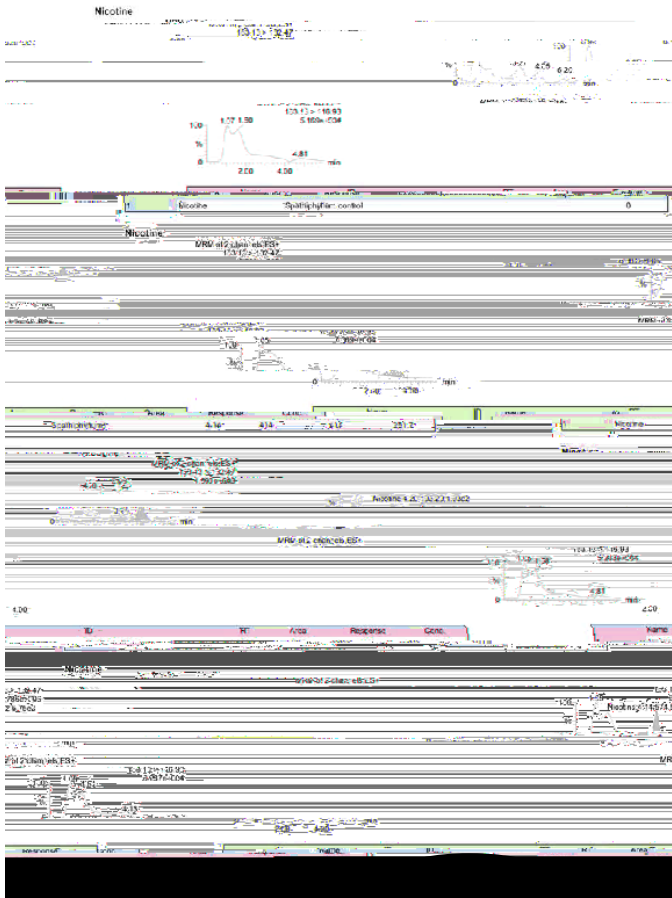


Figure 1: Chromatogram of nicotine by four house plants by LCMS

Houseplants are used in reducing levels of CO₂, VOCs, PM₁₀ [8]. Studies were carried out with the help of different houseplants to absorb poisonous nicotine released through cigarette smoke. Studies were promising showing *Epipremnum* as highest.

Wang et al. [9,6] reported that leaves, soil, and plant-associated microorganisms reduce indoor air pollutants like cigarette smoke, odors, and bio aerosols. In

Specific plant species and specific microorganisms pose huge potential to purify indoor environment.

Standards of phytoremediators can be established with the help of results obtained e.g. potting mixture, size of the plant and number of leaves required to achieve specific levels of phytoremediation in the presence of specific concentrations of pollutants in the specific area.

Acknowledgement

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