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Semi Rotary Planting System and Indoor Air Quality

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Project Title

Semi rotary planting system and indoor air quality

Faculty Name, Rank, All Department(s)/Center Affiliations

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Project Description

The EPA ranks indoor air pollution among the top five threats to human health. In an effort to maintain indoor air quality, the standard remedy within the building industry is to increase mechanical ventilation, bringing in even greater volumes of outside air. Studies show that interior plants, such as foliage, which thrive in the low-light conditions of the indoor environment are able to remove the buildup of volatile organic compounds (VOCs) that are offgassing from the building materials and indoor activities. In this study, we hypothesized that rotation of the selected plant (Golden Pothos) in a semi rotary planting system will expedite the absorption of VOCs from indoor air. A custom-made semi rotary vegetation system will be utilized for this project.

Purpose

The purpose of this project is to understand the plants ability in absorption of pollutants while in rotation.

Objectives

- 1- To determine the selected plants ability to absorb VOCs while rotating
- 2- To determine the effect of music and rotation on plants ability to absorb VOCs

Outcome

The outcome of this study is to understand plants ability in improving indoor air quality and to commercialize the custom made rotary system

The student's duties include

- 1- Be dedicated and responsible
- 2- Review literature related to topic and be up-to-date
- 3- Be in my office 4-6 hours a day, at least three days a week

- 4- Develops and run experiments
- 5- Helps with measurement of indoor air pollution
- 6- Helps with interpretation of the results and writing report

Mentorship

The student will be mentored by the faculty mentor directly during the summer. The student and faculty will meet 3-4 times within the first week for training and hands-on efforts on using rotary system and measuring pollutants with available devices. On week two and after the student will work in the faculty's office/lab 4-6 hours a day for, at least three days a week, directly under faculty's supervision.