Microbial Amendments in Peat-Free Potted Herbs

H. G. Featherstone

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Royal Holloway University London

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Harold Geroge Featherstone, EnviSci

Lead Supervisor

Prof. Alan Gange

Supervisors and Advisors

Dr. Tony Stead

Dr. Paul Devlin

Dr. Paul Alexander

Dr. Louisa Robinson-Boyer

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Abstract

This study aims to promote the potential of Peat-Free growing media (or substrate) to replace traditionally used Peat based growing media in commercial potted herb production. The basis of this study employs the use of Mycorrhizal Fungi and Plant Growth Promoting Rhizobacteria as amendments for the improvement of growing media. Increased crop growth and quality are observed from the inoculation of mycorrhiza on Peat-Free and Peat growing media, in both Commercial and research environments. Plant Growth Promoting Rhizobacteria had a less significant impact on crop quality. Crop homogeneity, Gas emissions and Phosphate buffers were also assessed in this study. Overall, Peat-Free growing media, amended with Mycorrhizal fungi demonstrate significant potential to surpass traditional, Peat based growing media.

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Abbreviation	Meaning
AMF	Arbuscular Mychorrizal Fungi
PGPR	Plant Growth Promoting Rhizobacteria
HMS	Horticultural Management System
NMS	Nursery Management System
MLF	Micro Lead Frame
DFN	Dual Flat No Lead
SDA	Serial Data Line
SLC	Serial Clock Line
SPME	Solid Phase Microextraction
IDE	Integrated Development Environment
SSH	Secure Shell
TVOC	Total volatile organic comound
RH	Relative Humidity
UAV	Unmanned Aerial Vehicle
LIDAR	Light Detection and Ranging
GIS	Geographical Information Systems
GCMS	Gas chromatography–mass spectrometry
NMR	Nuclear magnetic resonance
HPS	High Pressure Sodium
LED	Light Emitting Diode
RGB	Red-Blue-Green
RLC	Root Length Colonisation
GHG	Green House Gas
NGO	Non-govermental Orginsation

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