Innovate UK: Sphagnum Farming UK - a sustainable alternative to peat in growing media.

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## Why Sphagnum farming?





Move from wild harvest





## **Project** introduction

- Funded by innovate UK, from 1<sup>st</sup> Jan 2018 to March 2019
- Many Thanks to all our project Partners: Micropropagation services, Manchester Metropolitan University, The University of East London, Natural England, Melcourt industries and our farming partners the Stanleys.





Manchester Metropolitan University

Pioneering Futures Since 1898

**University of** 

East London



Micropropagation Services (E.M.) Limited, under the trading name BeadaMoss®, own rights in inventions relating to Sphagnum farming. This technology is currently patent pending under application numbers GB1907229.7 and GB1907228.9.

## Our aims:

"To investigate the cultivation requirements and the production potential involved in growing Sphagnum at scale sufficient to form a viable replacement for peat in horticulture"

- Key variables investigated:
- Sphagnum Growth and water relations (UEL)
- GHG emissions across sites and treatments (MMU)
- Performance of Sphagnum as a peat replacer in Growing media (Melcourt)

## What happened:

- We created two research sites one in Leicestershire and one in Greater Manchester.
- The innovate UK funding largely covered the site set up and establishment phases, with planting taking place in August, September and November.

Sharpley site:



Little Woolden site:



## Site set up, and context:

- We trialed two methods of Sphagnum supply developed by Micropropagation services – BeadaGel<sup>™</sup> and BeadaHumok ™
- We trialled two innovative irrigation solutions
- We trialled 3 different mulch treatments, with a no mulch control.



## Methods:







#### Sphagnum Growth:

through TLS and Photo capture Also capturing:

Weather station data Soil nutrient analysis

### Growth results – Sharpley site

Promising growth during the establishment phase

20 – 140% increase in mean plug size relative to initial planted plug, in first 6 months.









Pore water potential Price et al., 1998 Drought tolerance and recovery: Clymo and Hayward 1982.

Between 0 and -100Hpa Soil pore water pressures are too low to extract water from live sphagnum through capillary action.











## The Sphagnum did not die:

#### Sharpley site:

Little Woolden site:





## Future plans:

- Funding from PPL dream fund is allowing us to continue this years monitoring – what we are deeming the growth phase.
- We are close to achieving canopy closure on most plots at both sites. After 9-12 months since planting.
- MMU to continue GHG monitoring now Sphagnum cover is established.
- Hope to assess Sphagnum yields in 2020.
- Developing papers relating to the GHG story, conditions for growth, and peat replacement.

# There are exciting times ahead: