Sphagnum Farming UK

Micropropagated Sphagnum
Simulated rain
High productivity

BBSRC

Manchester Metropolitan University

University of East London

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Peat extraction = damage to carbon store and environment

Sphagnum – renewable peat alternative

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Lowland peatbog – former peat extraction site

Agricultural grassland – organo-mineral site

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BeadaGel™

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Seeding Material is Sustainably Produced Sphagnum

Clean material grown in a solar powered facilities

Micropropagated – versus - Wild collected

Cors Fochno / Borth (NRW) at 5 months

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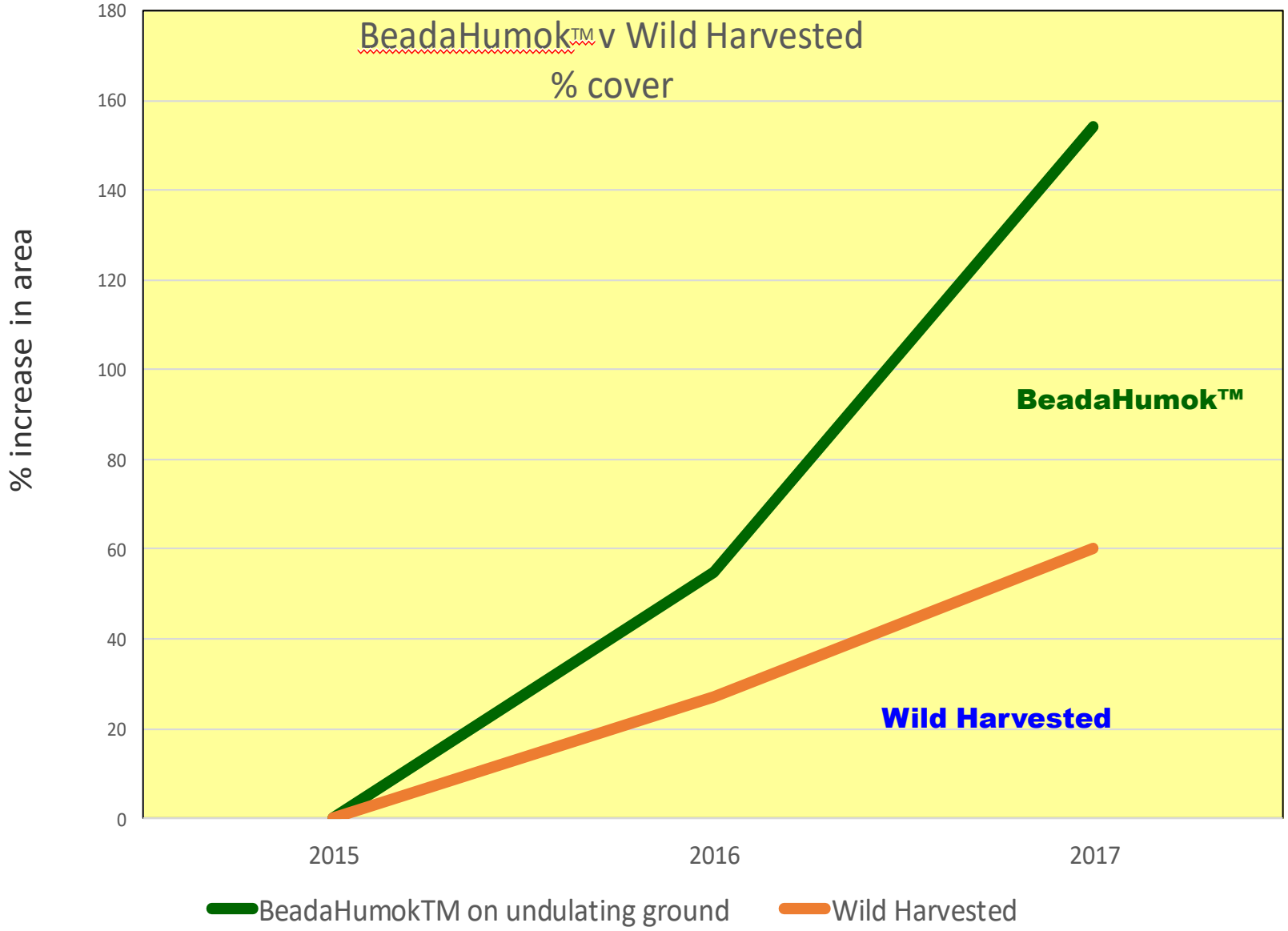
BeadaHumok™ vs Wild Kinder Scout



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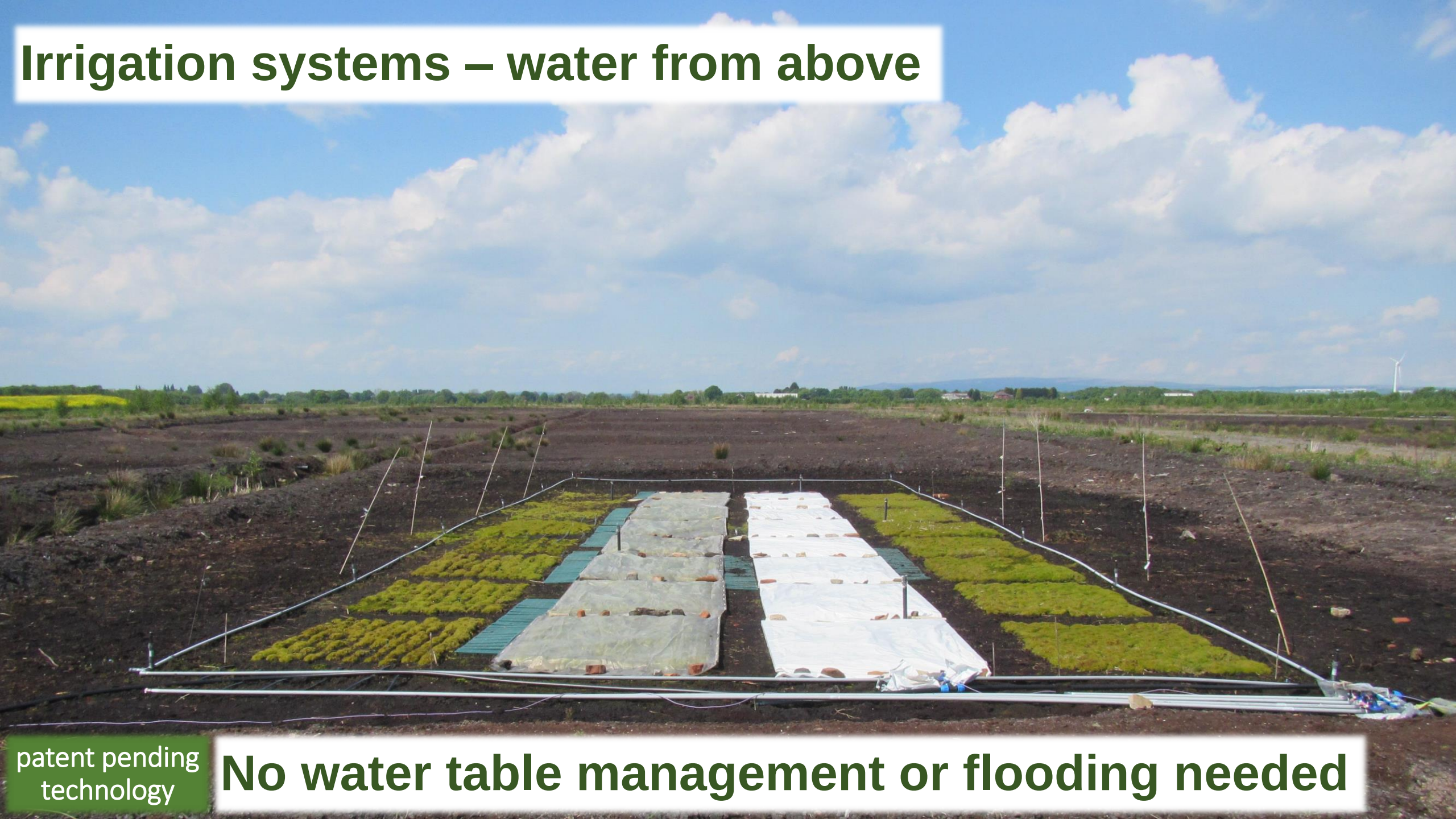
Cover materials – None, mesh, perforated plastic and straw

Irrigation systems – water from above



patent pending technology

No water table management or flooding needed

Irrigation

Spray

Drip

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Weed control

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BeadaHumok™

~6 months

BeadaGel™

~6 months


Growth at ~ 21 months

Sphagnum Farming UK Monitoring

- Greenhouse gas
  - CO2 & CH4 – see RRRsession 3.2

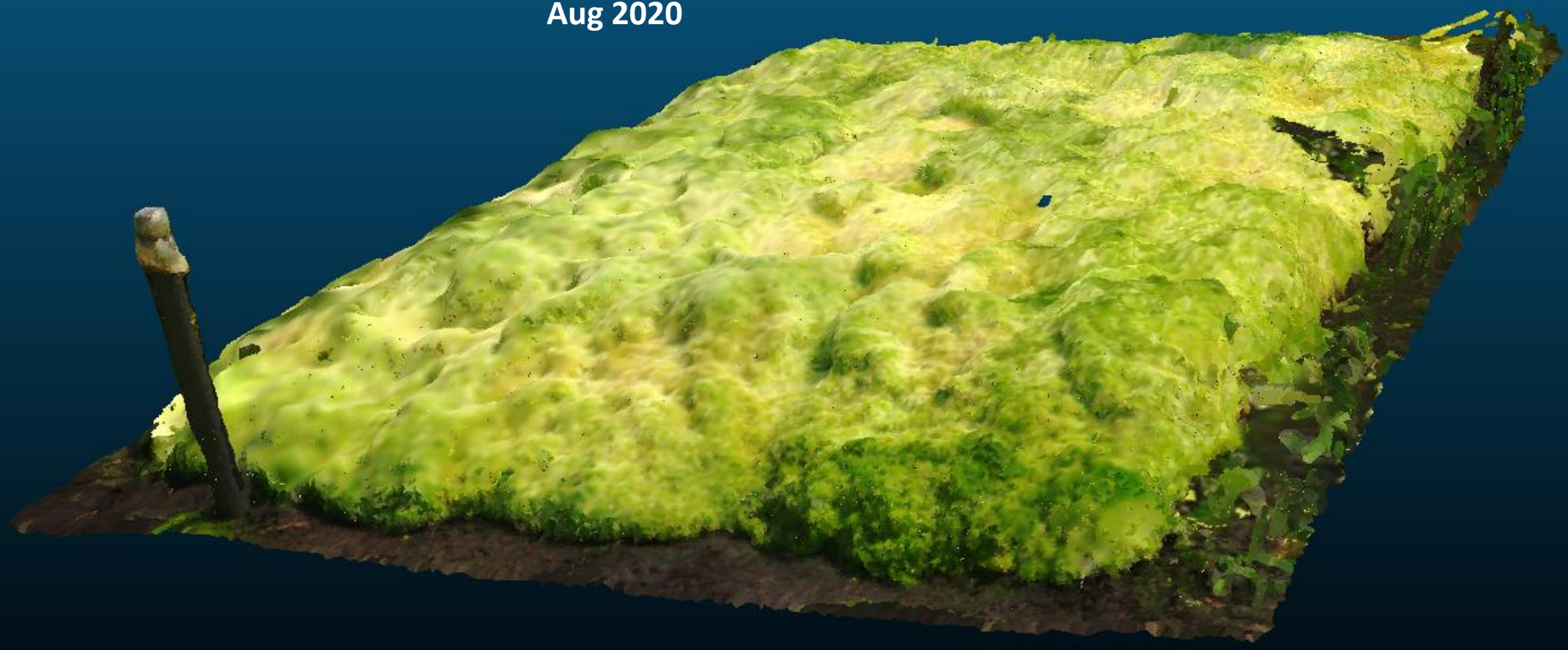
- Growth & biomass
  - Terrestrial laser scanning
    - Whole plot 3D image = volume
    - Validated by sampling

…3D scanning

Single plot

Created August 2020
Ben Clutterbuck

Feb 2019
Aug 2020



Productivity: 1600 m^3/Ha over 2 years

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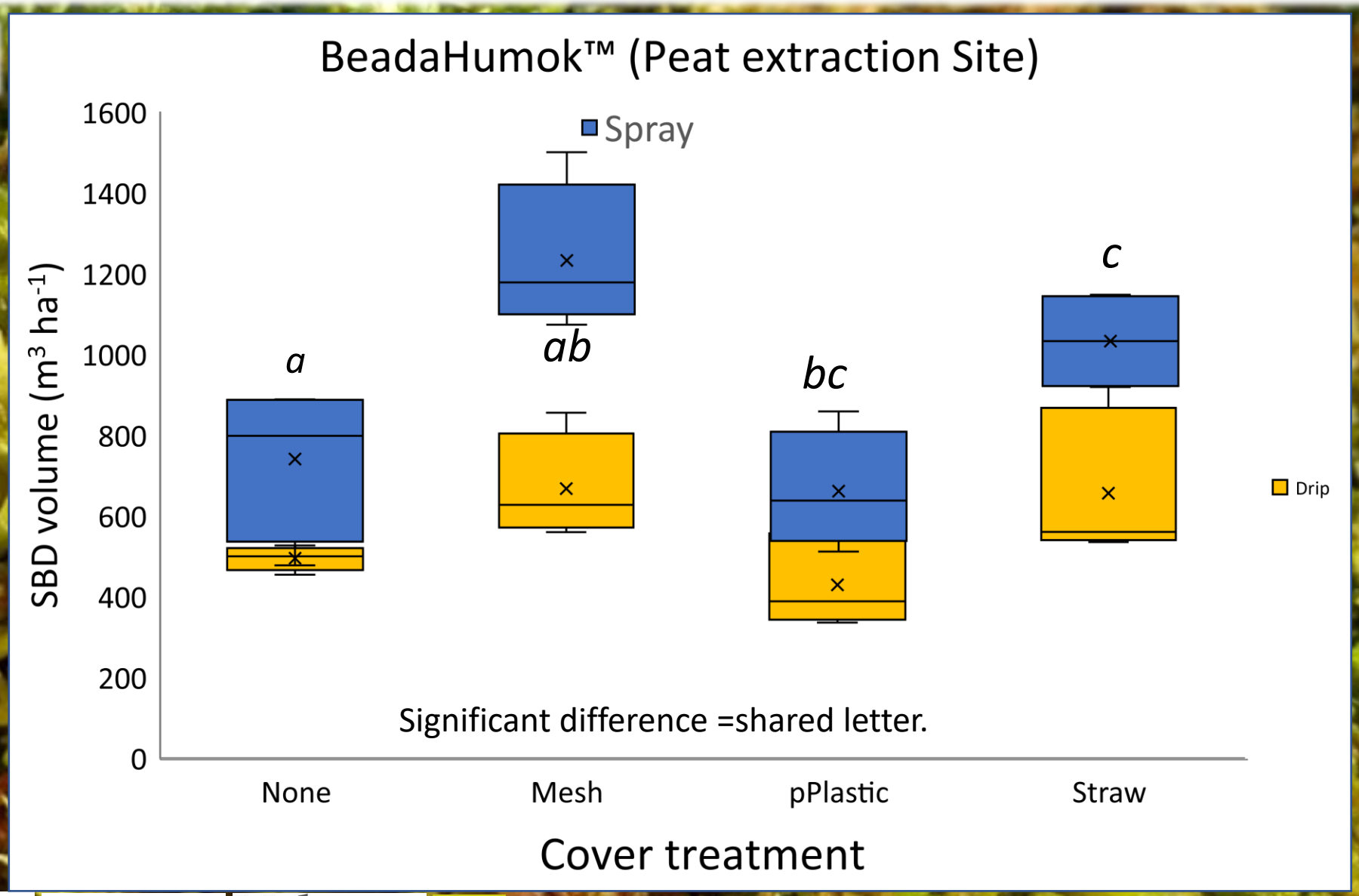
Volume after ONE growing season (May 2020) planted Oct 2018

Peat extraction Site



Volume measured using Standard Bulk Density volume (growing media)
n = 4 throughout.
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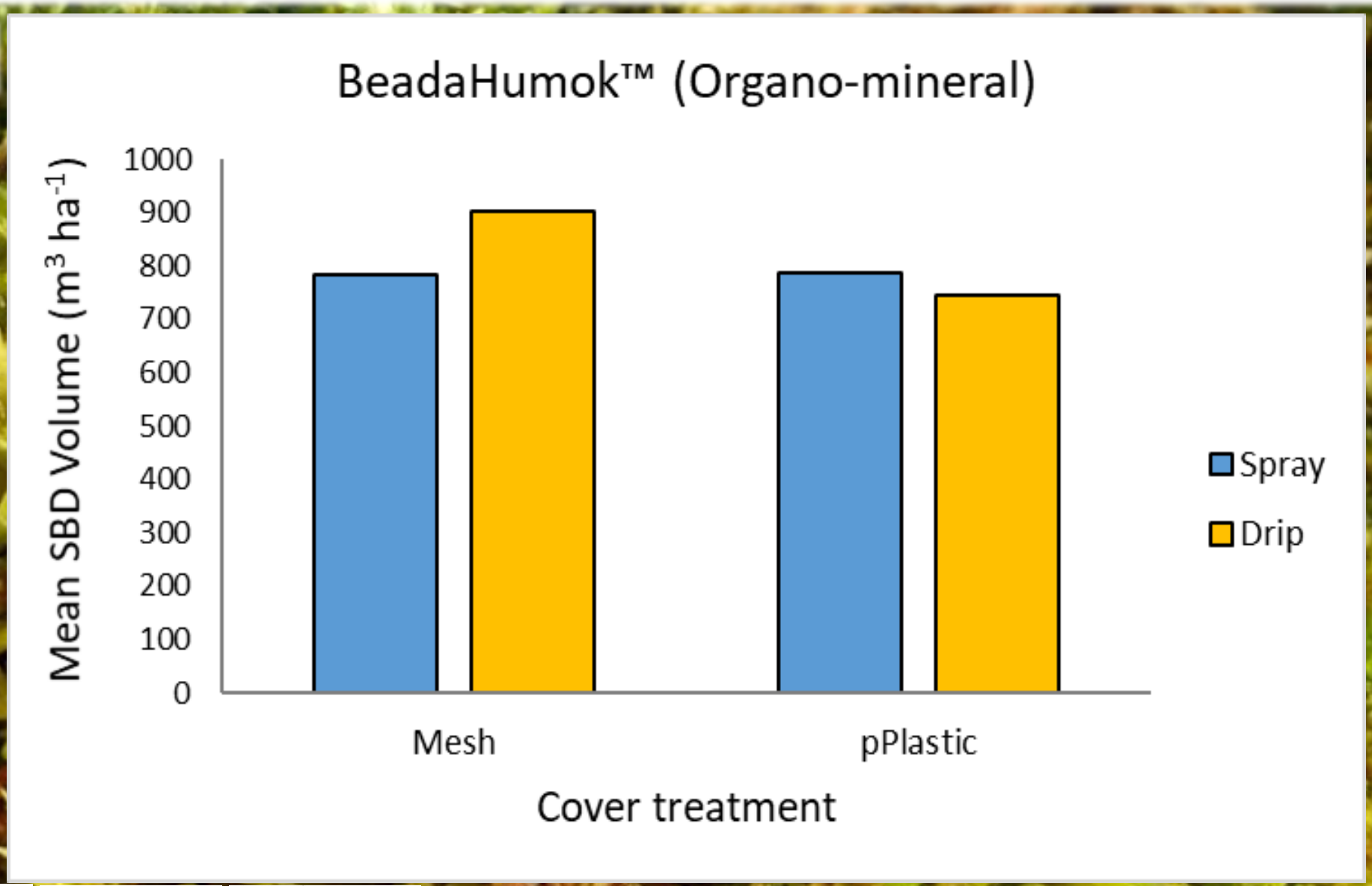
Volume after ONE growing season (May 2020) planted Aug 2018

Organo-mineral Site



Volume measured using Standard Bulk Density volume (growing media) **BeadaHumok™**

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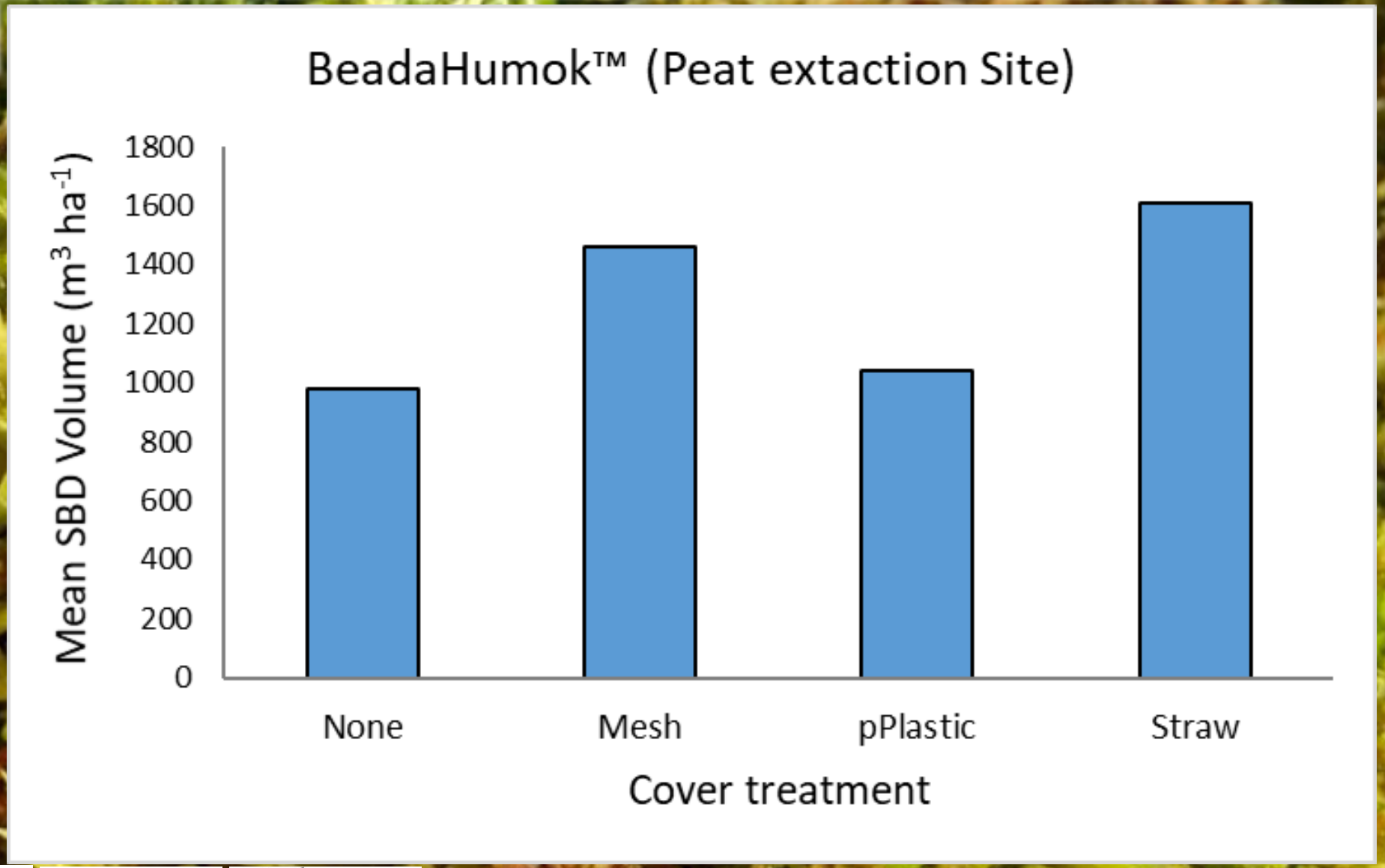
Volume ~ two growing season (Aug 2020) planted Oct 2018

Peat extraction Site



Volume measured using Standard Bulk Density volume (growing media)
n = 1 (None);
n = 3 (other covers)
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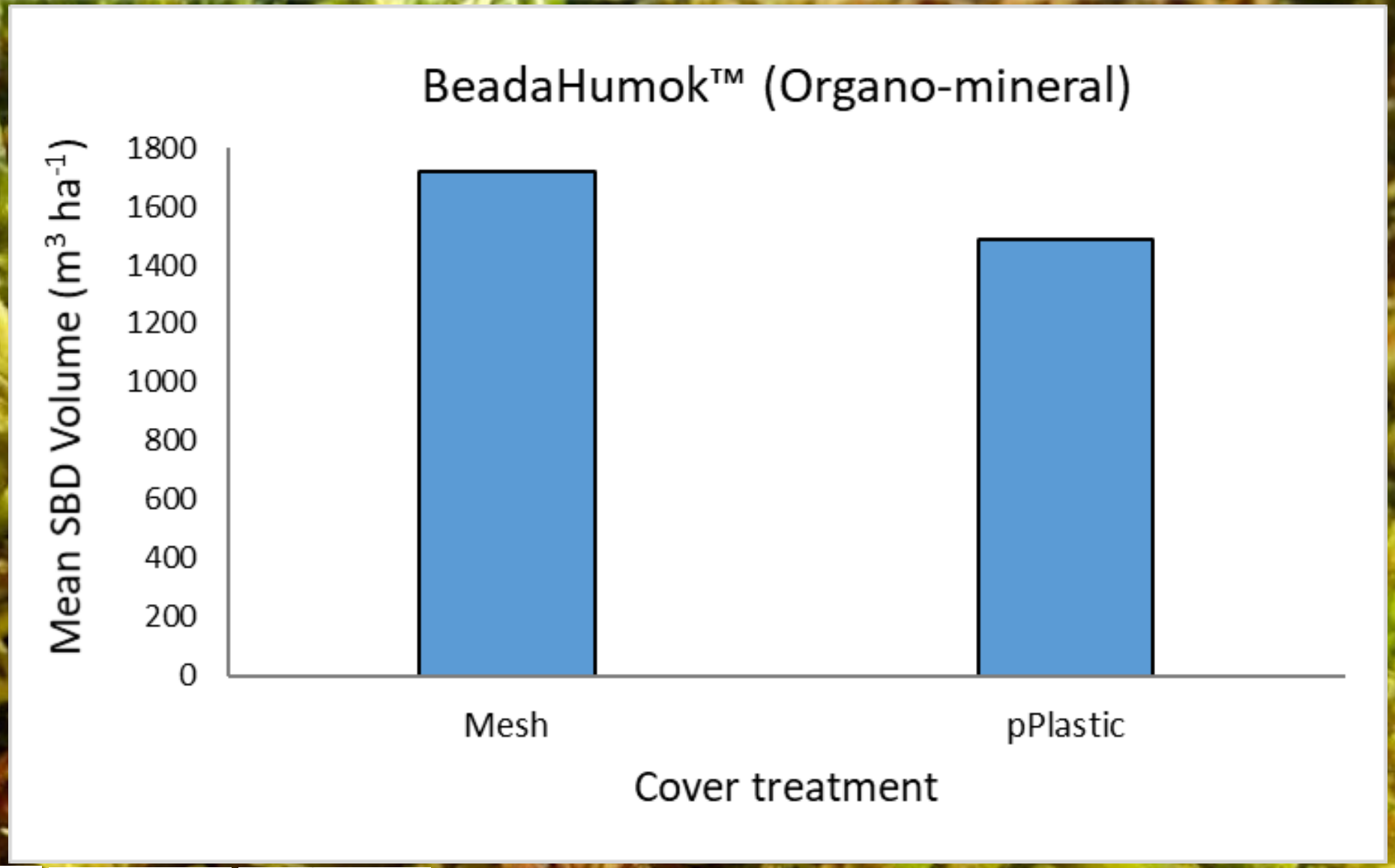
Volume ~ two growing season (Aug 2020) planted Aug 2018

Organo-mineral Site

Spray irrigation

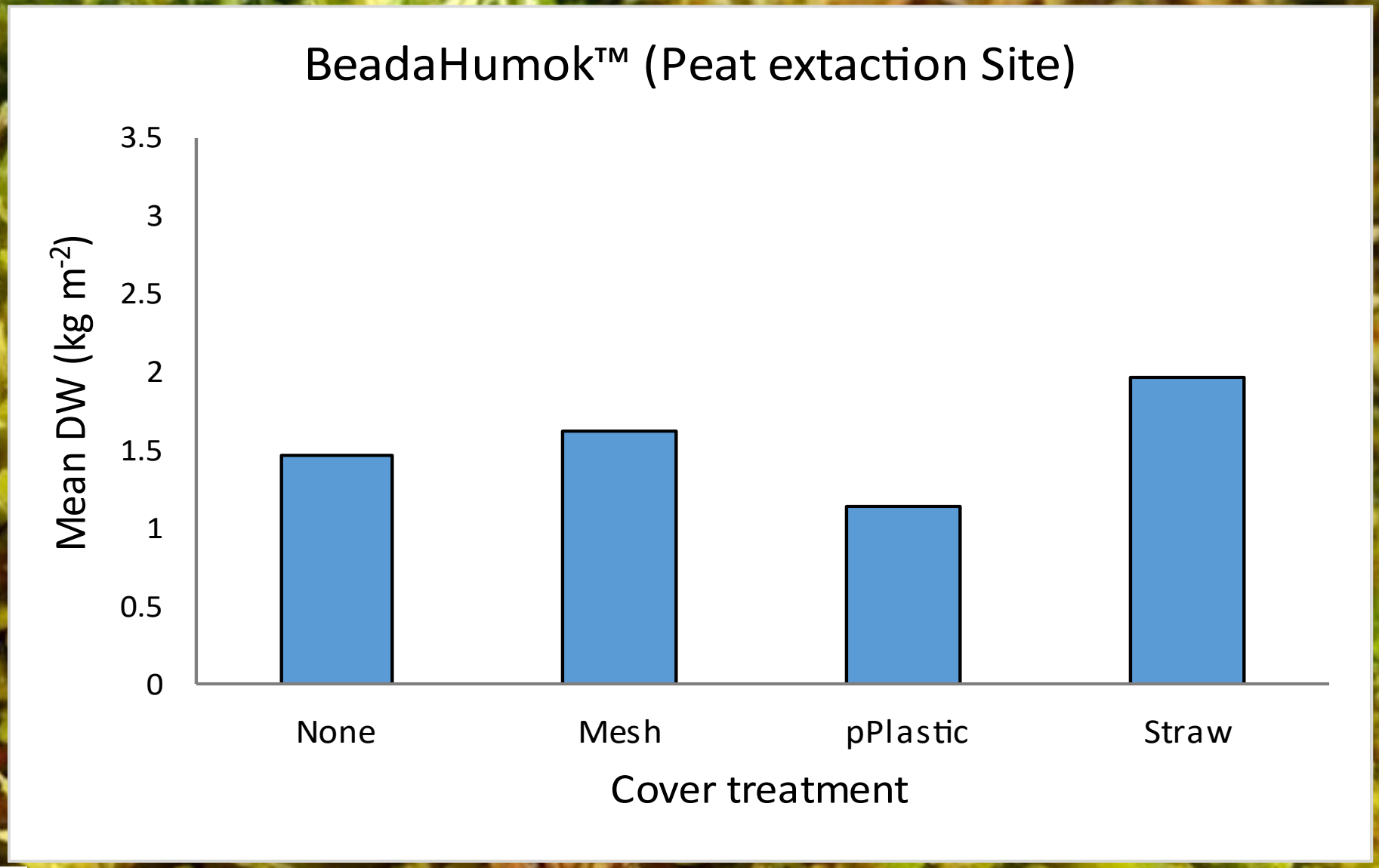


Volume measured using Standard Bulk Density volume (growing media) **BeadaHumok™**

Dry Weight ~ two growing season (Aug 2020) planted Oct 2018

Peat extraction Site

Spray irrigation



Mean Dry Weight Aug
May growth up to line
n = 1 (None);
n = 3 (other covers).
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Commercial viability

Productivity (average) expected to increase

– final harvest planned 2021 (3 years)

At just 1600m^3 (2 years)
the crop value would be £56,000/Ha

- based on £35/m^3

Scaling up to assess field scale costs
– new 3 year project

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Dried & Processed Sphagnum moss

For growing media – no need to use peat


…and it works too! (Tested by commercial growers)
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Sphagnum mix compared to peat and other peat-free


Pilots rolling into large scale trials now…
More agricultural peatland awareness
But what else is needed…?
Government support
Recognition of climate benefits

Sphagnum Farming UK
Thanks!

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BBSRC

Thanks to: Simon Caporn, Chris Field, Anna Keightley, Richard Lindsay, Jack Clough, Ben Clutterbuck, Paul Thomas, Catherine Dawson, Neal Wright, Jacqueline Wright, John, Pat & Joe Stanley and Lancashire Wildlife Trust.
(patent pending technology)

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THE wildlife TRUSTS
Lancashire, Manchester & N Merseyside

University of East London

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Sphagnum Farming UK

- Micropropagation Services (E.M.) Limited own rights in inventions relating to Sphagnum farming. This technology is currently patent pending under GB2006991.0, GB2006992.8, GB2584128, WO2020/234607, and WO2020/234611.
- We are pleased to hear from anyone interested in our technology and how we can help in your projects.

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