Sky Room 5: 10:00 - 10:15

## 1.3.5 Rapid & Reliable Restoration of Sphagnum using Micropropagated Sphagnum as BeadaHumok™

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Peatland Restoration
*Sphagnum, Restoration, Peatland, BeadaHumok,*

Micropropagated Sphagnum grown into small Hummocks (BeadaHumok ™) has been shown to establish and grow profusely on both Upland and Lowland restoration sites.
Results from trial sites across England, Wales and recently in Germany will be discussed:
The Peak District (Upland):
Trials set up on Kinder Scout in 2015 have shown that 94% of BeadaHumok™ planted and grew by 207% after 2 years, (427% after 3 years) compared to Clump of wild harvested Sphagnum which only increased by 60%.
Manchester Mosslands (Lowland, Cut-over bog):
BeadaHumok™ planted at high density produced a complete cover in approx. 2 years.
Cors Fochno (Lowland, Drained Agricultural Grassland):
BeadaHumok™ thrived better than transplanted Sphagnum even in flooded conditions. Overall growth increase of BeadaHumok™ was 285% in just 5 months, versus 37% for larger translocated local Sphagnum. Sphagnum on overturned plots grew better than on scraped plots, probably because of better rainfall infiltration and reduced ponding compared to the scraped surface.
Yorkshire (Upland):
Large scale planting at a site in Nidderdale N. Yorkshire in summer 2016 established very successfully and have grown away, producing hummocks of 130mm in diameter by March 2018
Lower Saxony (Lowland, Re-wetted Cut-over bog):
Trials planted in May 2017 have proved very successful without any Straw cover and had made substantial growth by the early autumn and have done well in a very cold winter.

Analysis shows that a small hummock (plug) of BeadaHumok™ contains ~110 strands/plants and is ideal for restoration, and for establishing pure species. 17 species have now been micropropagated enabling pure species to be grown in very large quantities and ensuring clean; pest, disease and weed free Sphagnum. BeadaHumok™ can be produced in single (pure species) or in mixtures specific to a project.

Local origin material can be produced of specific species or mixes to meet site requirements and can be produced for restoration which only requires a few stands as starting material. This ensures there is no damage to donor sites.

In spring 2018 some 850,000 BeadaHumok™ were planted produced from local origin material, together with planting of 350,000 in 2017 means that over 800 hectares of peatland have now had Sphagnum successfully re-introduced in a wide range of species. These areas now have a much-improved biodiversity and will already be enhancing the carbon balance of these peatlands (see Keightley et al at IPS Rotterdam).

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