



Sphagnumfarm Barver: Creating a New Perspective for Peatland Ecosystems

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CANAPE's Background

EU Interreg-Project CANAPE is

- innovating **restoration techniques** to restore bogs and lakes across 7 project sites in England, Belgium, Netherlands, Germany and Denmark
- supporting development of sustainable, **carbon storing agriculture**
- testing **Paludiculture** and its products to allow wetland farming with economic and ecological benefits
- engaging with public and stakeholders in order to maintain or revive ecosystem services and **improve peatland management**

CANAPE's project sites



- **Map** of Interreg CANAPE's test sites within North Sea range
- arrow indicates location of Sphagnumfarm Barver in Diepholz district (52°37'54.6"N, 8°37'16.4"E)

Metamorphosis of drained bog grassland into wet, climate friendly peatmoss culture

In spring 2020, CANAPE created in Diepholz district (Lower Saxony, Germany) a paludiculture pilot (size: 1 ha; geometry: quadratic) to trial agricultural production of peatmosses on former bog grassland with regional conditions ("Sphagnumfarm Barver").



- **Site preparation:** removal of eutrophic, earthified topsoil (4000 m³) and levelling, destruction of drainages, traverse of pipes and cables, building of surrounding bund, building of peripheral trench and irrigation ditches (dividing polder in 16 culture beds with width of 6 m), adjustable inflow and outlet



- **Automatic irrigation:** construction of a foil-sealed water reservoir (2500 m³), installation of pumps and control technology, connection to power grid



- **Inoculation of Sphagnum diaspores** (37,5 m³ x ha⁻¹, target species *S. palustre* mixed with *S. cuspidatum* and *S. fallax*; three different origins): manual application at start of the vegetation season, supported by a towing vehicle

Half a year of field experiences – first conclusions

With a sufficient peat mat, cultivation of Sphagnum on degenerated, drained bogs with inhomogenous proportions of white and black peat is possible.

- **Establishment:** within 2 months after inoculation and intensive hydro-management, a growing Sphagnum carpet is emerging. By end of 2020, the lawn has established and remaining gaps will probably be closed by coming vegetation season



Given the local conditions of Barver, the initial setup of a Sphagnumfarm on formerly drained bog grassland needs for successful transformation well prepared plannings, a substantial effort for site preparation (mainly earthworks and infrastructure for artificial irrigation), storage of water to secure steady irrigation and a trade-off between flood irrigation of black peat with poor water conductivity and subirrigation of the adjacent white peat.

Preliminary experiences show that the permacrop culture routine is still challenging and laborious: R&D work has to be done for suitable, wet-adapted machinery and procedures not damaging soil and mosses. Furthermore, there is a need for more know-how to ease site management and harvesting. Intensive scientific escort of the sociocultural transformation process from dry to wet peatland agriculture also seems of importance to raise acceptance of paludiculture.

Only with this, farmers will have faith in paludiculture as the right way forward.

Members of the German CANAPE partnership

