Challenges for peatland utilisation under recent EU framework conditions

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Comparative analysis, INtegration and ExemplaRy implEmentation of cLimate smart LAnd use practices on organic soils: Progressing paludicultures after centuries of peatland destruction and neglect

CINDERELLA
Use of peatlands and GHG emissions

- Arable use, drainage based utilization, peat extract
- Low intensity utilization
- Nature protected grasslands
- Reed Canary Grass
- Alder
- Reed, Sedges, Cattail

Drainage based peatland utilization
Emissions reduction
Low intensity utilization of peatlands
Paludiculture
Rewetting

Water table [cm] (medium)

Drainage based management of peatlands

Is financed by subsidies like

- Direct payments
- Renewable energy law (if maize for biogas is produced)
- ……
- and produces societal costs
- Damage costs for dairy farms = 1.900 € 282 €
  for cattle farms = 680 – 1.200 € -65 €
  default value = 80 €
Drainage based management of peatlands

productivity: 8 – 25 t DM/ha*a

emissions: >20 - 60 t CO₂ eq/ha*a
New concept →
Paludiculture*

- Cultivation of biomass on wet and rewetted peatlands
  - bog: peat moss
  - fen: Common Reed, Reed Canary Grass, Sedges, Alder, Cattail...

- Utilisation of biomass for industry and energy
  → peat conservation
  → reducing GHG emissions
  → replacing fossil resources

*“palus” – lat.: swamp
Reed canary grass (*Phalaris arundinacea*)

productivity: 3.5 – 15 t DM/ha*a

emissions: ∼12 t CO₂eq/ha*a
Common Reed (*Phragmites australis*)

productivity: 3 – >25 t DM/ha*a

emissions: ~10 t CO$_2$eq/ha*a
Sedges (Carex spp.)

3 – 12 t DM/ha*a

0 – 8 t CO₂-eq / ha*a
Cattail (*Typha* spec.)

Productivity: 5 - 22 t DM/ha*a

Emissions: ~10 - 15 t CO$_2$eq/ha*a
Black Alder (*Alnus glutinosa*)

productivity: 3 – 10 t DM/ha*a

emissions: ~ 0 t CO2eq/ha*a
General aims of CINDERELLA

• to extend the scientific base for a sustainable use of wetlands and to make alternative uses accessible to farmers and land authorities.
  – give an overview on productive species, provenances and breeds;
  – assessment of economics of paludiculture, including ecosystem services;
  – promote the exchange of scientific and technical knowledge;
  – stimulate the cooperation among partners (countries and regions, stakeholders);
  – optimize synergies between regional climate change mitigation and adaptation;
  – contribute to the necessary transformation of drainage-based peatland agriculture

→ paludiculture
Adjustment of the current framework conditions is required, including:

- Recognition of paludiculture as a form of agriculture.
- Discontinuation of counterproductive incentives.
- Application of the polluter pays principle.
- Rewarding the land use associated to ecosystem services.
- Accounting of greenhouse gas emissions from peatland use in the reporting for the Convention on Climate Change (UNFCCC).
The main hindering factors for large scale rewetting and paludiculture

- Under the current agricultural legislation, the receipt of direct payments (CAP, First Pillar) and funding for rural development (CAP, Second Pillar) is common practice for drained petlands, but seems impossible for reed and cattail dominated paludicultures (winter harvest).
- For permanent crops, the establishment of paludicultures on permanent grassland can be hampered by the rules protecting permanent grassland.
Sensibilisation of Ministries by raising awareness for:

– Open questions: reed and cattail from paludiculture are no agricultural products.

– direct payments and agro-environmental/climate schemes must be made available for paludiculture.

→ Allow ploughing of dry permanent grasslands before rewetting and planting.

→ Legal adjustments by exemptions from the permanent grassland protection rules (at least outside Nat2000 areas) must be adopted.
EU should arrange regulations that National ministries responsible for agriculture can

- introduce at least an equal treatment of paludiculture compared to drainage based peatland agriculture regarding CAP payments,
- generally allow conversion from EU protected permanent grassland on organic soils to reed or cattail dominated paludiculture.

To make it happen:

`peatland rich’ countries must request constructive solutions for the innovative agri-cultural approach of paludiculture on EU level
Paludiculture – productive use of wet peatlands

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Thanks for listening!

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