

Paludiculture: Where Agriculture Meets Wetland Restoration

Paludiculture is a form of agriculture, where crops are grown on wet peatlands. In contrast to traditional agriculture, which involves draining peatlands to create grazing areas for livestock or grow farmable crops, paludiculture aims to restore these areas. Globally, drained peatlands release 1.9 gigatonnes of carbon dioxide equivalent per year. When combined with rewetting these ecosystems, paludiculture allows for climate change mitigation while maintaining agricultural use of the land.

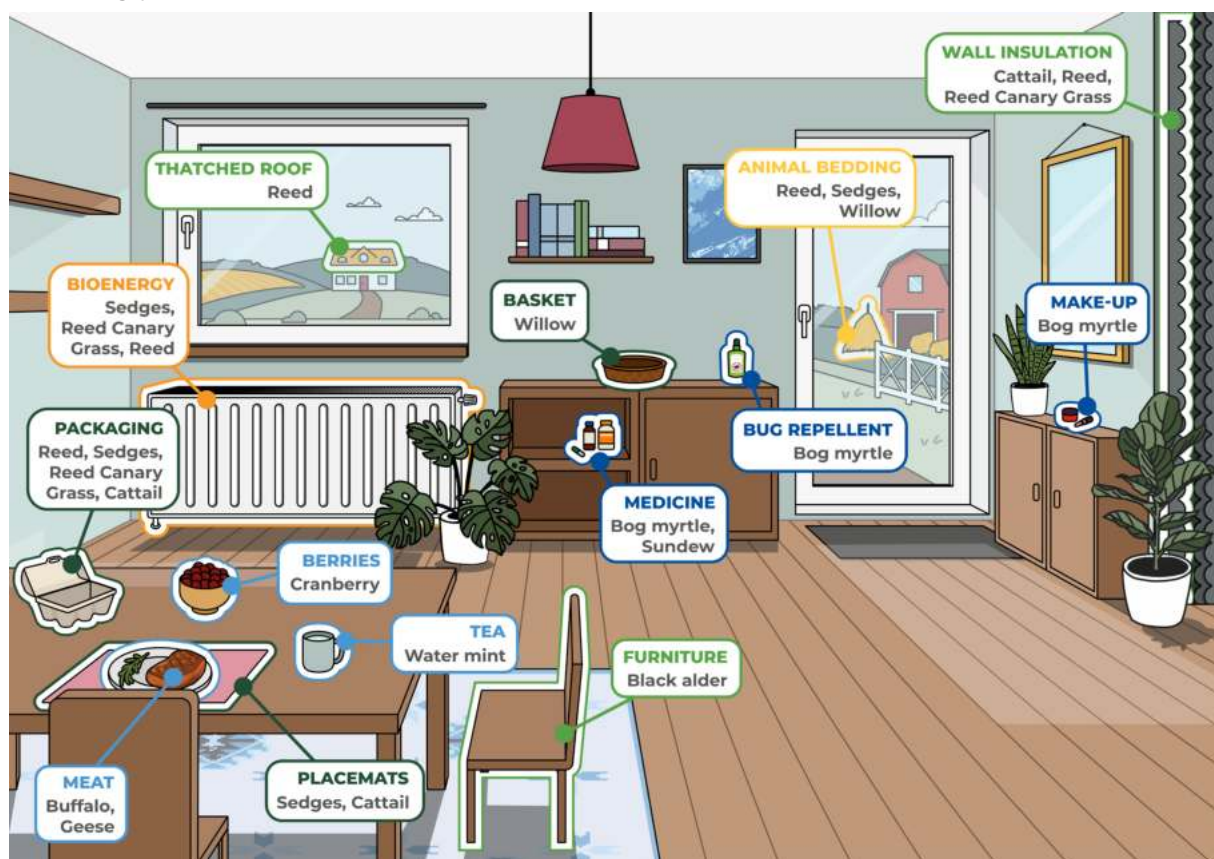
How does it work?

In paludiculture farmers use intact peatlands, or first rewet a drained peatland. A key part of this approach is the growth of a native plant called Sphagnum moss (peat moss) on these lands. When rewetting a peatland, Sphagnum is used to create a layer of peat that is regularly harvested for biomass.

The freshly harvested moss can be used as a sustainable replacement for a peat-based growth medium in horticulture — a branch of agriculture focused on growing crops for human food, medicine and cosmetics. Thus, it acts as an alternative for the unsustainable practice of extracting peat from peatlands.

Products

Sphagnum is just one crop that can be cultivated on rewetted peatlands. Plants such as reeds, cattails and sedges can be grown, harvested and used as raw materials for the following products:



- Food
- Building Material
- Cosmetics/Medicine
- Agriculture
- Packaging
- Energy



What are the benefits of paludiculture?

By rewetting and restoring peatlands, we can practice sustainable agriculture while alleviating greenhouse gas emissions. By preserving the existing layer of peat, we prevent it from releasing its stored carbon. In addition, paludiculture contributes to ecosystem services such as: water quality and quantity, as well as biodiversity.

Is there a market?

Currently the market for paludiculture products is in the early stages with specific markets varying based on the crop and region. For example, there is an established global market for reed used for **thatching**, Sphagnum mosses as a renewable substitute for peat in **horticulture**, and wood for **construction**. Other crops such as hay for bedding or **district heating** have regional markets. Medicinal plants such as sundew have a more niche market. Crops such as cattail and sedges are in the development stage of marketing, with prototypes of potential end products having been established.



Reed



Sphagnum mosses



Hay bales



Sundew



Cattail



Sedges

Paludiculture is still in the novel stages of application and faces challenges for wide-spread use. However, experts continue to research multiple aspects of this farming technique with the hope of overcoming these barriers and expanding their markets.

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Improving wetland knowledge and developing tools to enhance protection and restoration of Europe's wetlands. Focused on biodiversity.



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