Measures against peat degradation and greenhouse gas emissions

The biochemical process **Aerobic**

Bacteria break At lower groundwater levels, oxygen down peat with the assistance penetrates further of oxygen. into the soil. This process This can result in the release of more releases greenhouse greenhouse gases. gases.

Anaerobic

This releases

methane.

When the groundwater level is high (and when there is flooding), other bacteria break down peat without oxygen.

When the groundwater level is at or below around 20cm. this methane is largely converted back into less harmful CO₂.

In oxygen-free or low-oxygen conditions,

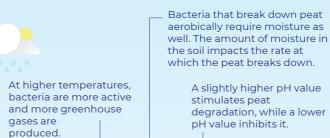
nitrous oxide can also be released.

stronger greenhouse gases than CO.

Methane and nitrous oxide are

Factors

that impact on peat degradation



A slightly higher pH value degradation, while a lower

Clay particles, the type of peat, fertiliser and other factors can also The groundwater level determines how impact on far oxygen is able to penetrate the soil. peat degradation

Wet crops

Cranberry

A food crop that can grow with limited drainage, under acidic conditions, and with virtually no

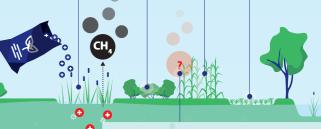
Cattail

Cattail cultivation can release methane. The level of methane emissions seems to partly depend on the amount of fertiliser used. **Miscanthus**

A fibre crop that grows with limited drainage and without much

Peat moss

Peat moss could potentially capture net CO₂ It grows with water up to ground level.

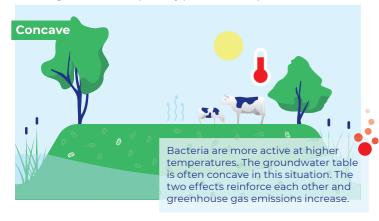


It may be that these crops release low levels of both methane and CO₃; further research is required.

Groundwater level

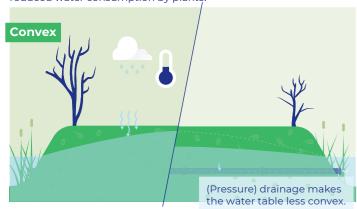
Summer

A concave groundwater level is caused by factors including water consumption by plants and evaporation.



Winter

In colder periods, there is a precipitation surplus and reduced water consumption by plants



Measures that reduce peat degradation.

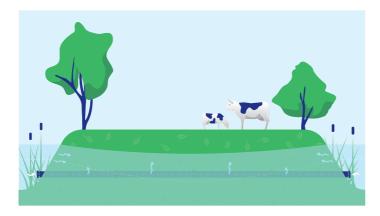
Ditchwater level

This increase is slow, as the water has to penetrate the land via pores.



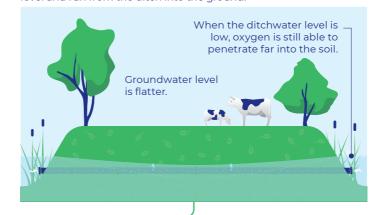
Combination

A combination results in more greenhouse gas reductions.



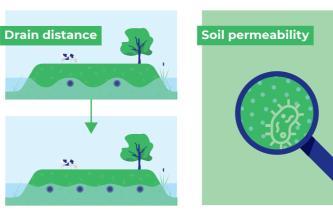
Underwater drainage

Infiltration pipes that are located below ditch level and run from the ditch into the ground.



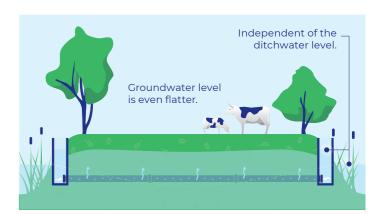
Factors

The impact of measures depends on a range of factors including:



Pressure drainage

Pressure drainage uses the water level in wells.



Soil measures

To increase the effect, changes can be made to the soil.



Food Quality of the Netherlands

