

phic fen (dominated by *Juncus subnodulosus* and *Carex rostrata*) and in a more nutrientrich grassland. N.P. and K. in plant material and in soil water were regularly determined. The fen was cut in July, the grassland in November.

The biomass maximum of *Juncus subnodulosus* is close to that of the grassland, and much larger than that of *Carex rostrata*. Both fen species show only moderate regrowth after cutting. The deeper groundwater in the sand layer contains high NH_4^+ levels and low PO_4^{3-} levels.

The nutrient levels in the soil water under *Juncus subnodulosus* are consistently lower than under *Carex rostrata*. This agrees with the negative correlation between biomass and nutrient availability found in fens in this area.

The K^+ level in the soil water increases sharply after cutting. The nutrient contents of the vegetation indicate N- and P- limitations in the fens and only weak N- limitation in the grassland.

- Relations between nutrient availability in the soil and biomass production and species density of the vegetation.

Samples of the vegetation and the soil have been taken on the same spots in two different ecotypes: the floating fen and grassland, on ridges of uncut peat.

Comparison of the results found for the two ecotypes shows that the correlations found for the fen are opposite to the correlations found in the grassland.

Under stressed conditions in the fen (water stress, low PH) low nutrient levels are limiting and biomass is not negatively correlated with species density, as should be expected, but positively correlated.

The opposite is found in the grassland under more optimal conditions (drier, better O_2^- and nutrient supply).