

Interaction of Elevated CO₂ and Ozone Concentrations and Irrigation Regimes on Leaf Anatomy and Carbohydrate Status of Young Oak (*Quercus petraea*) Trees

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Young sessile oak (*Quercus petraea*) trees were exposed for one vegetation period in closed environmental chambers in a crossed factorial study on effects to varied CO₂ concentrations, ozone concentrations and irrigation treatments. Elevated CO₂ concentrations (ambient + 350 μmol mol⁻¹) caused a significant increase in biomass production, alterations in leaf anatomy and chloroplast ultrastructure as well as an increase in leaf starch content, as compared to ambient CO₂ concentrations. The effects of elevated O₃ concentrations and drought stress were far less distinct. The leaf starch content was influenced by CO₂ and O₃ in a synergistic manner.