GLOBAL WARMING EFFECTS ON GROWTH OF NORTHERN WOODY SPECIES: 
Betula pendula, Pinus sylvestris and Picea abies

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Introduction:
Higher CO₂ emission of today’s world is leading to higher global mean temperature. Trees show immediate response to warming by altering the growth (Kirschbaum, 1999) which will eventually affect boreal forest structure. Changes in boreal forest structure would have major effects on the economy as well as ecosystem.

Aim of the study:
Investigating the impacts of elevated temperature on growth of B. pendula, P. sylvestris and P. abies grown in the same ecosystem.

Hypothesis:
Elevated temperature would increase the growth of B. pendula and P. sylvestris, but P. abies would show reduced trend.

Materials and Methods:
1. In an outdoor experiment, one-year-old B. pendula and two-year-old coniferous seedlings were grown under ambient and elevated temperature (±2 °C from ambient level) for one growing season.
2. Height and diameter growth were measured, and dry shoot biomass was analyzed.

Results and Discussion:

The results indicate that higher temperature will increase the growth of B. pendula, may increase the growth of P. sylvestris, but may decrease the growth of P. abies in boreal conditions in the future.