Analysis of the effect of temperature on yield components and starch concentration in tritordeum and wheat.

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**Objective:** Testing the impact of temperature increase (ambient temperature, $T_{\text{ambient}}$ versus elevated temperature, $T_{\text{ambient} + 4^\circ C}$) on crop productivity and nutritional characteristics in four tritordeum lines.
Plant material and methods:
Four tritordeum lines: HTC15432 (high-yield line), Bulel T1 (commercial line), HT534 and HT621 (lines with high lutein content), and a high yield wheat genotype (TOGANO) were grown in greenhouses under two temperature regimes (ambient temperature, $T_{ambient}$ versus elevated temperature, $T_{ambient} + 4\degree C$).

Main results and Conclusions:
Yield components:
- At elevated temperature, grain number is the target parameter linked with grain yield for tritordeum.
- Tritordeum plants invest more resources on plant biomass rather than on grain production under high temperature, which was reflected in lower HI.
- Both the commercial tritordeum line (BulelT1) and the high-yield bread wheat (TOGANO) maintained an homogenous productivity under high temperature.

Grain composition:
- Under elevated temperature, no significant decrease of grain starch concentration was observed, but %N was significantly increased for the tritordeum lines HT435.