



RADIATION USE EFFICIENCY IN SPRING BARLEY UNDER DROUGHT: A CROSSTALK BETWEEN SURVIVAL STRATEGY AND CANOPY STRUCTURE

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In order to evaluate effects of different survival strategy and canopy structure on cereal radiation use efficiency (RUE) under drought during grain filling, a pot experiment in spring barley (*Hordeum vulgare* L.) of cultivar Dobra (able for escape, no productive tiller) and Kompakt (one productive tiller) was conducted. There was no difference in current RUE for leaf dry mass (RUEL) between main stems of tested cultivars, observed. However, in productive tillers of cultivar Kompakt it was approximately double. Taking together, RUEL for whole plants was significantly higher in cultivar Kompakt than in cultivar Dobra. Current RUE for spike dry mass (RUES) in hydrated plants was markedly higher than RUEL, in main stems of cultivar Kompakt with round double values of cultivar Dobra. Productive tillers of cultivar Kompakt were the most efficient PAR (photosynthetic active radiation) utilizer for spike growth. Drought decreased RUES in cultivar Kompakt (in main stems as well as productive tillers) to a half but in cultivar Dobra 20 %, only. Evaluating final RUE for spikes, almost fivefold higher values in hydrated plants of cultivar Kompakt fell to double ones under drought. In this context, important role played the productive tiller. Thus, model of more intensively tillering cereal crop seems to be more efficient in radiation use.

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