Effect of maize stand on soil heat flux

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A b s t r a c t: Recent knowledge of energy balance of the maize stands shows that the meteorological elements influence the thermal energy distribution in the stand. This fact was also confirmed by our results that we obtained on the basis of continuous measurements at the Agricultural School Enterprise at Žabčice of Mendel University of Agriculture and Forestry in Brno. We used the measurement of global radiation by means of the KIPP&ZONEN sensor and the heat flux into the soil by sensor HFT-3, which was placed in the maize stand at 0.01 m below the soil surface throughout the whole vegetative period in 1999. The analysis of the soil heat flux results for clear days has shown that the increase of the leaf area index decreases not only the values of intensity, maxima and minima, but also the daily amplitudes.

Key words: global radiation, active surface, clear days, heat flux, soil temperature, maize stand

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