

Photosynthesis rate, transpiration and stomatal conductance of vegetable species in protected organic crops

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This paper approached the variations of some ecophysiological parameters of the certain specie of vegetables under controlled systems such the greenhouses and solariums. The aim of this work is to appreciate the ecophysiological response through the processes of photosynthesis, transpiration and stomatal conductivity for water. It were studied the ecophysiological response of some varieties of tomato, eggplant and sweet pepper to a controlled condition in solarium. The analyses concerning processes of photosynthesis, transpiration were performed with LCi portable systems on field who analyzed with infrared on non damaging plant. The results were followed the comparative responses of the analyzed species cultivated in conventional and organic systems. The studies was performed in protected spaces (solariums) with mostly an organic fertilization before the analyzed crops setting. The photosynthesis, transpiration and stomatal conductance were higher after flowering phenophasis in organic and also in ecological systems, especially in the middle part of the plant (luxuriant tomato). It was also analyzed the assimilation of dry mass produced in photosynthesis per unity of lost water through transpiration process (WUE parameter). Stomatal conductivity of water was in generally correlated with transpiration process and is concerning the state of leaf dehydration. The dependency with the type of technology is linked to rate of decomposition of the nutrient from soil and to the entering into metabolism(photosynthesis and carbon assimilation); in this way the synthetic fertilizers are available quickly, while the organic nutrients are released slowly during vegetation duration.