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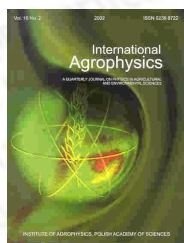
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[previous paper](#) [back to paper's list](#) [next paper](#)Multichannel measuring system for profile monitoring of CO₂ concentration in cultivation equipment[\(get PDF\)](#) Mitsulov N.¹, Tsonev T.²¹ N. Poushkarov Institute of Soil Science, Shosse Bankya 7, 1080 Sofia, Bulgaria² M. Popov Institute of Plant Physiology, Acad. G. Bonchev Str., Bl.21, 1113 Sofia, Bulgaria

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abstract A multichannel measuring system MMS-05 for continuous and synchronized profile monitoring of the CO₂ concentration in cultivation installations is described. The system guarantees the performance of vertical and horizontal gradient measurements and registration of CO₂ concentration in a greenhouse. Experimental studies with 6 cultivars of greenhouse tomato plants performed for testing the system show that the fluctuations in CO₂-profiles, and respectively the CO₂ concentration in the greenhouse, follow a time dependant pattern with a pronounced decrease during the midday hours 10 a.m. ÷ 6 p.m. when CO₂ concentration reaches 160 ÷ 180 mmol mol⁻¹. During the night, as a result of plant and soil respiration, the CO₂ concentration rises to 450 ÷ 500 mmol CO₂ mol⁻¹.

keywords CO₂ gradient, greenhouse, measuring system, plant