

AN INTELLIGENT PLANT IRRADIATION SYSTEM BASED ON SSL LED TECHNOLOGY

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ABSTRACT *As a result of dynamic progress in SSL LED technology – the up to the present exploited sodium and fluorescent lamps are and will be more and more frequently superseded by light sources, basing on this technology. In the article a complete system assigned for plant irradiation, including in vitro cultivation methods has been presented. Detailed problems dealing with the lamp frames' structure as well as with an intelligent control system enabling implementation of advanced irradiation algorithms – have been discussed.*

Prospects and economic aspects of powering the system from a hybrid photovoltaic installation have been thoroughly analysed.

Keywords: *SSL LED technology, LED diode, plant lighting, lighting fixture, control system, control algorithm.*