ABSTRACT

For the diploma project, it was decided to develop an automated plant growth control system. Based on the literature, we analyzed the necessary conditions for optimal plant growth and considered the problems that may arise during plant development at different stages, investigated the physical foundations of hygrometry and photometry.

The components for the implementation of an effective automated growth control system are considered and selected, a comparison between the components is made, and the necessary processes that should take place in the system are structured. An optical scheme aimed at the most effective result was developed. The system collects data on humidity and activates the irrigation function if necessary, and also illuminates plants with appropriate types of light for optimal plant development.

Keywords: automated systems, lighting control, humidity control, automated watering, plant growth control.