



Co-financed by Greece and the European Union

# “CASCADE HYDROPONICS”

**An integrated approach to increase productivity, resource use efficiency and sustainability of protected horticulture**

**Cash**

Deliverable 12 [4.1.1]: *Model –Selection: prediction of nutrient concentration*

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### Project Details:

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### Deliverable Details

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**Task(s):** [T4.1.1: [Model –Selection: prediction of nutrient concentrations]

**Deliverable Title:** [Model –Selection: prediction of nutrient concentrations]

**Lead beneficiary:** [University of Thessaly]

**Involved Partners:** [Agrostis, Hochschule Geisenheim University]

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D12\_ [4.1.1]: [Model –Selection: nutrient concentration]

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D12\_ [4.1.1]: [Model –Selection: nutrient concentration]

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## 1. Summary

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In this deliverable, the model for predicting the nutrient concentrations for the multiple stages of the fertigation line of the cascade system is designed. In this sense, a series of algorithms, that are involved to the nutrient concentration prediction system are presented. It is important to note that an automatic control system for the management of the drainage concerning the primary, the secondary and the tertiary crop will be achieved. The model will be integrated in a software, developed by "Agrostis", able to be connected with the supervisory control and data acquisition system (SCADA) that is already being used in the pilot CasH greenhouse. The basic function of the software is to make decisions concerning the amount of fresh solution or water needed to be added to the drainage solution in order to achieve the desired nutrient concentrations, adjusted according to the type of cultivation, the development stage and the plant density.

D12\_ [4.1.1]: [Model –Selection: nutrient concentration]

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The deliverable is available upon request

Please send e-mail to the project coordinator: [nkatsoul@uth.gr](mailto:nkatsoul@uth.gr)