



STARTED AT: 27/03/2023

NAME OF THE PROJECT: Organic potato cultivation practices for improved production quality and resistance to disease

SHORT NAME: POTATO2UP

PROGRAM: AGRICULTURAL DEVELOPMENT PROGRAM (RAP) 2014-2020, Sub-Measure 16.1 - 16.2 – “Establishment and operation of operational teams of the PES for agricultural productivity and sustainability”, Action 2 - Implementation of the Operational Plan (project) of the ESK Operational Groups for the productivity and sustainability of agriculture”

Website: <http://potato2up.gr/>

DURATION: 24 MONTHS

SUMMARY: The present project proposes an application aiming at the improved quality of potato production through more efficient absorption of nutrients, a pro-environmental management of important fungal pathogens of the crop by reducing the use of chemical fungicides. Chemical inoculation is a way of awakening the defense mechanism of plants, which have already been treated with stimulants before the presence of stress conditions. More specifically, POTATO2UP will highlight the advantages and potentials of applying environmentally friendly triggering practices to crop practices by evaluating time-focused applications of intersystemic biostimulants with trans-wave sprays for more efficient nutrient absorption with reduced chemical inputs to the potato crop of the pilot field. To evaluate the time-focused applications of chitosan hydrochloride acting as an activator of plant defense mechanisms for a more environmentally friendly management of important fungal pathogens. Finally, remote sensing technics will be implemented, which has shown promising results for monitoring the physiological status of plants in the pilot field.

GSH is involved in the project in two Working Packages: WP3 "Development of a model and system for monitoring the production quality and the plant health using multi-spectral UAV images, satellite and meteorological data", WP4 "Dissemination of project results". More specifically, in this package, satellite data and multispectral UAV imagery will be acquired and combined for regular observation of the pilot field, after application of biocontrol agents in order to assess the production quality, and therefore the impact of the methodology at given time points. The monitoring before and after the application of the biocontrol agents can provide indicators to validate the success of the methodology, which can be further applied to other areas with the same crop. The use of data from the weather station will also contribute positively the results of the project.

GSH's main activity at present focuses on the application of the UAV system with a multi-spectral camera to perform two flights per growing season, and the analysis of high-resolution satellite images to monitor the crop before and after chemical inoculation applications using remote sensing methods, such as application of existing vegetation indicators. Data combination and assessment of plant health through appropriate indicators will be integrated into the dynamic automated workflows for automatic information acquisition.

*This Research has been co-financed by the **European Agricultural Fund for Rural Development (EAFRD)** and **Greek national funds** through the AGRICULTURAL DEVELOPMENT PROGRAM (RAP) 2014-2020, Sub-Measure 16.1 - 16.2 – “Establishment and operation of operational teams of the PES for agricultural productivity and sustainability”, Action 2 - Implementation of the Operational Plan (project) of the ESK Operational Groups for the productivity and sustainability of agriculture”, with project code: **M16ΣΥΝ2-00356**.*

CONSORTIUM:



Ανδρέας Ζαμπίδης

