



# Valuefarm

**2<sup>nd</sup> Newsletter**  
**July 2022**



The PRIMA programme is supported under Horizon 2020 the European Union's Framework Programme for Research and Innovation





Dear readers, we are sharing with you our 2<sup>nd</sup> newsletter.

In October, 2021 we submitted the first annual report of the project to PRIMA. In February 2022, Valuefarm reached its mid-term which is a pivotal milestone for the project progress. We submitted the mid-term report and we are expecting the mid-term review meeting with PRIMA and national funding agencies of the participating countries.

Valuefarm progress was heavily affected by COVID-19 pandemic and mitigation measures had to be implemented to ensure the progress of the project.

In this newsletter, we are happy present the highlights of the project so far and the main activities that took place during the last 16 months after our 1<sup>st</sup> newsletter was released.


Project coordinator

Dr. Spyridon Petropoulos

University of Thessaly, Greece

The project is organized in the following working packages





# Project website and social media

The project website was released on June 2021.

You can be posted with project activities at

<http://valuefarm-prima.agr.uth.gr/>

The accounts in social media channels were also created

- Facebook: <https://www.facebook.com/Valuefarm-PRIMA-113138597266783>
- Instagram: [https://www.instagram.com/valuefarm\\_prima/](https://www.instagram.com/valuefarm_prima/)
- Twitter: <https://twitter.com/ValuefarmP>
- YouTube: [https://www.youtube.com/channel/UCXWiPYDw5kPeUfwhj\\_bsY\\_Q/?guided\\_help\\_flow=5](https://www.youtube.com/channel/UCXWiPYDw5kPeUfwhj_bsY_Q/?guided_help_flow=5)
- Researchgate: <https://www.researchgate.net/project/VALUEFARM>



## Hotspot map of wild edible species (WEPs)

As part of deliverable D2.1 the first version of the DATABASE map of the selected WEPs in the participating countries is available online at the project website.

The update of this database is continuous and is expected to have a new version within the next months.

# Overview of WEPs hotspot map





## MARCH 2021

The 1<sup>st</sup> interim report under deliverable D1.3 was submitted to PRIMA, where all the ongoing and future activities were presented. The interim report is confidential and its access is restricted to project partners.

Prior to the report, all partners participated in an online technical meeting where they discussed the project progress and the difficulties that the pandemic has created so far.

The project management which is addressed through WP1 was evaluated and the Communication plan (WP5) was established.

The progress of WP2 which started on M1 and end on M24 was also discussed. Field and greenhouse activities related to this WP are in progress, although some delays have been identified.




# SEPTEMBER 2021

The 2nd interim and the 1<sup>st</sup> annual reports (D1.5 and D1.6, respectively) were submitted to PRIMA, where all the ongoing and future activities were presented. D1.5 is confidential, while D1.6 is available through the project website.

As part of D1.4, a technical meeting was organized to discuss the project progress and confirm the activities to be included in the annual and semester reports.

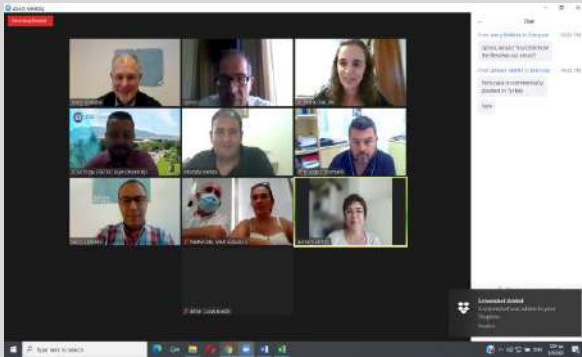





# Meeting agenda

- 1<sup>st</sup> Technical meeting: 3<sup>rd</sup> September 2021
- Place: Online via zoom at 12:00 UTC
- 12:00-12:15h Welcome to attendants (UTH)
- 12:15 – 14:45h Presentation of activities of the 1<sup>st</sup> year by all the participants (UTH)
  - 12:15 – 12:30h Presentation of activities of UTH
  - 12:30 – 12:45h Presentation of activities of IPB
  - 12:45 – 13:00h Presentation of activities of CUT
  - 13:00 – 13:15h Presentation of activities of BUW
  - 13:15 – 13:30h Presentation of activities of EGE
  - 13:30 – 13:45h Presentation of activities of DEU
  - 13:45 – 14:00h Presentation of activities of BU
  - 14:00 – 14:15h Presentation of activities of UM
  - 14:15 – 14:30h Presentation of activities of GFV
  - 14:30 – 14:45h Presentation of activities of CSIC
- 14:45 – 16:00h Discussion about the Communication and Dissemination activities (DEU, EGE, CUT)
- 16:00 – 16:30h Questions, wrap up and conclusions (UTH, all)

# On line technical meeting (D1.4)





## Research activities

Seeds of the selected species were propagated from stock seeds in order to determine the optimal conditions.

The description and evaluation of the five WEPs has been performed for one growing period and will be repeated for one more year.

The implementation of WEPs in various cropping systems as part of WP2 has been conducted for one growing period and will continue in the second growing period.

Several activities related to the agronomic characterization of the studied species under various cultivation conditions are in progress.



University of Thessaly (UTH) has partially performed and planned activities related to the use of WEPs in crop rotation systems with common bean and peas, and intercropping systems.

Cyprus University of Technology (CUT) has performed hydroponic experiments regarding the nitrogen requirements of WEPs.

Ege University (EGE) established a trial to test mixed planting and co-planting system of WEPs under field conditions

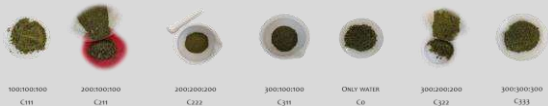


Consejo Superior de Investigaciones (CSIC) has planned a field trial to study the effect of different cropping practices (crop rotation and intercropping) with purslane (*Portulaca oleracea* L.) and peas (*Pisum sativum* L.) on plant establishment and yield, soil quality, rhizosphere bacterial and fungal communities.

Benha University (BU) has performed field trails for the first growing periods with *Portulaca oleracea* in mixed cropping, intercropping and short-term crop rotation systems with legumes and other crops



Instituto Politécnico de Bragança (IPB), as lead beneficiary of WP4 has begun the assessment of the nutritional value and chemical composition of WEPs with material provided by the partners involved in WP2 and WP3.





# OCTOBER 2021

WP3 officially starts on October 2021 and several activities are scheduled.

Bergische Wuppertal University (BUW) which is the leading partner of WP has collected six different soils to evaluate the influence of soil types and properties on the plant growth of *Portulaca oleracea*, *Sonchus oleraceus*, and *Crithmum maritimum*.

# OCTOBER 2021

**Wild plants  
grown in the  
same field**



**Cultivated  
Greek seed  
plants  
in the field  
experiment**





# OCTOBER 2021

Consejo Superior de Investigaciones (CSIC) performed a pot experiment in greenhouse conditions to study the effects of inoculation with different species of plant growth promoting bacteria's (PGPRs), arbuscular mycorrhizal fungi (AMFs) and plant growth promoting fungi's (PGPFs) on growth, yield and rhizosphere dynamics of purslane (*Portulaca oleracea* L.).





# OCTOBER 2021

CSIC has scheduled an experiment where various biofertilizers together with different concentrations of inorganic fertilizers and organic compost (in increasing N concentrations) will be tested in order to determine the best agronomic yield and the highest growth of purslane using the minimal amount of inorganic fertilizer due to the use of biofertilizers.



PG: Portulaca from Greece    PE: Portulaca from Spain    S: Sonchus oleraceus

# OCTOBER 2021

UTH has planned pot and greenhouse experiments have been planned in order to evaluate the effect of non-microbial biostimulants on WEPs cultivation.



# OCTOBER 2021

Dokuz Eylul University (DEU) and Ege University (EGE) will perform experiments related to soil improving properties of selected species and the effect of plant roots on soil decomposition.



# OCTOBER 2021

Cyprus University of Technology (CUT) will perform greenhouse experiments (hydroponic-NFT) regarding the nitrogen (N; 50-100-200-300 ppm) requirements for *Sonchus oleraceus* and *Portulaca oleracea*.



# OCTOBER 2021

Cyprus University of Technology (CUT) will perform greenhouse experiments (hydroponic-NFT) regarding the nitrogen form and ratio (ammonium to total nitrogen ratio;  $Nr=0.01-0.05-0.10-0.15$ ) requirements for *Sonchus oleraceus* and *Portulaca oleracea* under different cultivation seasons





# OCTOBER 2021

Benha University (BU) has performed the following experiments related to the effects of microbial biostimulants on plant growth and chemical compositions and the effect of irrigation with saline water and biostimulants on *Portulaca oleracea*.





# DECEMBER 2021

An Open Day was held in the greenhouse of Dokuz Eylul University on December 2021 to inform the public about the project subject and WEPs.

The material of this Open Day is available in the YouTube channel of the project at:

<https://www.youtube.com/channel/UCmEyuuirXgkl5IRKvtqdSJA>

Questionnaires were completed by the participants

# Open Day at DEU





# DECEMBER 2021

The University of Thessaly with the participation of University students conducted a workshop.

The video material of this openday has been uploaded in the YouTube channel of the project at:

<https://www.youtube.com/channel/UCmEyuuirXgkI5IRKvtqdSJA>

Questionnaires were completed by the participants

# Open Day at UTH





## Training courses at BU

Benha university (BU) has performed group meetings and three training courses

# Training courses at BU





## FEBRUARY 2022

As part of deliverable D1.8 a technical meeting was held online on February 2022 where the details of the mid-term report were discussed and finalized.



# Online meeting agenda

- Internal Meeting: 01st February 2022
- Place: Online via zoom at 14:00 CET time
  - 14:00-14:05h Welcome to attendants (UTH)
  - 14:05 – 15:45h Brief presentations of project activities and obtained results by partners *BU, BUW, CSIC, CUT, DEU, EGE, GFV, IPB, UM, UTH*
  - 14:05 – 14:15h Brief presentation from BU
  - 14:15 – 14:25h Brief presentation from BUW
  - 14:25 – 14:35h Brief presentation from CSIC
  - 14:35 – 14:45h Brief presentation from CUT
  - 14:45 – 14:55h Brief presentation from DEU
  - 14:55 – 15:05h Brief presentation from EGE
  - 15:05 – 15:15h Brief presentation from GFV
  - 15:15 – 15:25h Brief presentation from IPB
  - 15:25 – 15:35h Brief presentation from UM
  - 15:35 – 15:45h Brief presentation from UTH
  - 15:45 – 16:30h Discussion about the progress of the project and possible extension



# Online meeting





# MARCH 2022

The 3<sup>rd</sup> interim report under deliverable D1.7 was submitted to PRIMA, where all the ongoing and future activities were presented. The interim report is confidential and its access is restricted to project partners



# MARCH 2022

A Living Lab-Workshop has been organized by Cyprus University of Technology (CUT) for the needs of ValueFarm Project at the Hydroponic Infrastructures of CUT.

# Workshop-Living Lab at CUT





# JUNE 2022

The mid-term report was submitted to PRIMA and is under evaluation. Due to pandemic difficulties we have requested an extension of the project and we are expecting the evaluation results.

# JUNE 2022

Presentation of Valuefarm project in #EUGREENWEEK on June 3<sup>rd</sup>, as part of the PRIMA actions: A Step toward Circular Economy Models in Agro-Food Systems in EU and Mediterranean Countries.



A close-up photograph of purslane leaves, which are small, green, and fleshy, growing densely together.

## Communication and publicity material

As part of deliverable D5.3.1, the following material has been prepared:

a) one poster in the proceedings of Natural Products Application conference that was held on-line on 4-5 February, 2021.

*Nikolaos Polyzos, Ângela Fernandes, Maria Inês Dias, Spyridon A. Petropoulos, Isabel C.F.R. Ferreira, Lillian Barros. Nutritional value and chemical composition of purslane leaves in relation to harvesting stage.*



## Communication and publicity material

b) one poster in the proceedings of III International Symposium on Soilless Culture and Hydroponics: Innovation and Advanced Technology for Circular Horticulture conference that was held on-line on 19-21 March, 2021.

*Elina Nastou, Georgios Thalassinou, Nikolaos Polyzos, Vasileios Antoniadis, Spyridon A. Petropoulos. The effect of nitrogen fertilization rate on growth and physiological parameters of three purslane genotypes grown in a soilless cultivation system.*


Both are available at project's website.





# Publicity material

- University of Thessaly (UTH) as part of deliverable D6.4.1 has published informative material to the Greek magazine Γεωργία και Κτηνοτροφία (<https://www.agrotypos.gr/>)
- The Polytechnic Institute of Bragança (IPB) as part of Task 6.4.1 has published a press release in the national newspaper Revista TecnoAlimentar, entitled “Valorização de pequenas empresas agrícolas da região Mediterrânica através do cultivo de plantas silvestres não convencionais - Valorization of small agricultural farms in the Mediterranean region through the cultivation of unconventional wild plants” (<http://www.tecnoalimentar.pt/noticias/valorizacao-de-pequenas-empresas-agricolas-da-regiao-mediterranica-atraves-do-cultivo-de-plantas-silvestres-nao-convencionais/>).




## Publicity material

- A review paper regarding the use of WEPs in the Mediterranean diet has been published by UTH and IPB in Applied Sciences, MDPI.

*Elena Chatzopoulou, Marcio Caroch, Francesco Di Gioia, Spyridon A. Petropoulos. 2020. The Beneficial Health Effects of Vegetables and Wild Edible Greens: The Case of the Mediterranean Diet and Its Sustainability. Applied Sciences 10(9144): 1-27.*


<https://doi.org/10.3390/app10249144>



## Publicity material

As part of deliverable D6.4.2. University of Thessaly (UTH) has presented one poster in the proceedings of HELECOS 10: 10ο Συνέδριο της Ελληνικής Οικολογικής Εταιρείας that was held on-line on October 14-17, 2021.


*N. Πολύζος, Σ. Πετρόπουλος. Η αξιοποίηση των αυτοφυών φυτών ως εναλλακτικών καλλιεργειών στο πλαίσιο της κλιματικής αλλαγής.*



## Publicity material

University of Thessaly (UTH) has presented one poster in the proceedings of 12th International Scientific Agriculture Symposium “AGROSYM 2021” that was held in Jahorina, Bosnia and Herzegovina on October 7-10, 2021.


*Spyridon A. Petropoulos, Nikolaos Polyzos, Maria Compochoi. The effect of fertilization regime on Scolymus hispanicus plant growth.*



## Publicity material

Polytechnic Institute of Bragança (IPB) in collaboration with UTH has presented one poster communication in XXI EuroFoodChem that was held on-line on 22-24 November, 2021.


*Beatriz H. Paschoalinotto, Ângela Fernandes, Miguel A. Prieto, Nikolaos Polyzos, Spyridon Petropoulos, Isabel C.F.R. Ferreira, Maria Inês Dias, Lillian Barros. Study of the nutritional profile of Cichorium spinosum L. after fertilization with different nutritional solutions.*



## Publicity material

Polytechnic Institute of Bragança (IPB) in collaboration with UTH has presented an oral communication in First Meeting on Biochemistry that was held on-line on 9-10 December 2021.


*Beatriz H. Paschoalinotto, Miguel A. Prieto, Nikolaos Polyzos, Maria Compocholi, Spyridon Petropoulos, Isabel C.F.R. Ferreira, Maria Inês Dias, Lillian Barros. Effect of fertilization via nutrient solution on the nutritional profile and chemical composition of Chicorium spinosum L.*



## Publicity material

As part of deliverable D6.4.3. the Polytechnic Institute of Bragança (IPB) in collaboration with UTH has presented the results of the project in 14 Simpósio Latino Americano de Ciência de Alimentos that was held on-line on 12-14 December, 2021.

*Paschoalinotto, B.H.; Fernandes, Â.; Prieto, M.A.; Petropoulos, S.; Ferreira, I.C.F.R.; Dias, M.I.; Barros, L. Estudo do perfil nutricional de Cichorium spinosum L. após fertilização com diferentes soluções nutritivas*




## Publicity material

Dokuz Eylul University (DEU) has performed an oral presentation in the 7th International Mediterranean Symposium on Medicinal and Aromatic Plants meeting held in Izmir on 18-20 November 2021.

*E. Duyuşen Güven, Serpil Özmihçı, Ayşenur Özuysal, Görkem Akıncı. METALS ACCUMULATION AND TRANSFER IN Portulaca oleracea L. SAMPLES AS EDIBLE WILD PLANTS IN AEGEAN REGION OF MEDITERRANEAN AREA*






## Publicity material

University of Thessaly (UTH) has published a review paper regarding the use of *Crithmum maritimum* in saline agriculture in Applied Sciences, MDPI.

*Anestis Karkanis, Nikolaos Polyzos, Maria Kompocholi, Spyridon A. Petropoulos. 2022. Rock Samphire, a Candidate Crop for Saline Agriculture: Cropping Practices, Chemical Composition and Health Effects. Applied Sciences 12(737): 1-18*

<https://doi.org/10.3390/app12020737>



## Publicity material

The Polytechnic Institute of Bragança (IPB) in collaboration with UTH has presented an oral communication in the conference “Chromatography helps in times of crises” that was held on-line on 17 December 2021.

*Paschoalinotto, B.H.; Fernandes, Â.; Prieto, M.A.; Calhelha. R; Polyzos, N.; Petropoulos, S.; Ferreira, I.C.F.R.; Dias, M.I.; Barros, L. Chromatographic analysis at the service of new agricultural production systems: chemical composition of Chicorium spinosum L. with bioactive properties.*



- ***Participants:***

- University of Thessaly (UTH), **Greece**
- Instituto Politécnico de Bragança (IPB), **Portugal**
- Cyprus University of Technology (CUT), **Cyprus**
- Dokuz Eylul University (DEU), **Turkey**
- Ege University (EGE), **Turkey**
- Consejo Superior de Investigaciones Científicas (CSIC), **Spain**
- Bergische Wuppertal University (BUW), **Germany**
- Greek Fresh Vegetables IE (GFV), **Greece**
- Benha University (BU), **Egypt**
- University of Mostaganem (UM), **Algeria**

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