



CALL TEXT AND SUPPORTING INFORMATION

Call: Section 1 – Farming Systems 2019

IA – Topic 1.2.2: Sustainability and competitiveness of
Mediterranean greenhouse and intensive horticulture

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Challenge

Mediterranean intensive horticulture systems, especially greenhouse cultivation, can provide high quality product all-year round with an efficient use of external resources and hand-labour. But the current productive capacity and sustainability in Mediterranean horticulture systems, in terms of quantity and quality can be further improved with adequate use of new biological agro-ecological technologies. Moreover, intensive horticulture and particularly the greenhouse farming sector has often exemplified unsustainable exploitation of resources, especially energy, soil and water, thus representing nowadays a poor environmental system that needs urgent and dedicated attention. Among new greenhouse technologies that are demanded to make sustainable greenhouse agriculture are e.g. efficient greenhouse climate control, efficient use of resources, and sustainable and integrated pest and pathogen control. In the Mediterranean basin, technological update of greenhouse industry and in general the intensive horticulture sector is strongly needed in order to face increasing competition arising from globalisation of production and marketing.

Scope

In the Mediterranean area, the intensive cultivation of horticulture products, such as tomato, pepper and lettuce, can take advantage of favourable environmental conditions for organisational and technological development to result in higher productive efficiency. Technology innovations should include greenhouse climate control, sensors and robotics tools and agronomical practices to improve the efficient use of resources, ultimately fulfilling a circular recovery approach, and also providing environmentally friendly and ecological control of pest and pathogens for production of safe food. Furthermore, special attention must be paid to controlling nutrient leakages to the receiving surface, sub-surface and groundwaters with the purpose to fight growing eutrophication trends.

New soilless systems (including freshwater aquaponics) should be also incorporated and tested in order to facilitate the adoption of efficient fertigation strategies, particularly under conditions of water scarcity and low water quality while ensuring nutrient balance strict and smart control systems to fight eutrophication. Successful technological implementation rests on the effective use by single users or consortia in tight connection with processing industries. This should include integrating sensors data and algorithms into decision support systems. Proposals should then properly analyse the grower's needs and offer solutions that will be successfully exploited. A socio-economic study is also advocated to demonstrate economic feasibility while preserving and protecting receiving environmental systems (water and soil) of the proposed measures and proper education and training of growers through specific capacity building activities, and to help promoting a new generation of entrepreneurs, less conservative and more aware of the state-of-the art practices. The greenhouse technology providers, mainly SMEs, constitute an important source of employment for the agri-business. The proposals should aim to better connect private companies and public research, facilitating the exchange of know-how from research centres and academy to the private sector and vice versa.

The proposed innovative technologies should be tested in small-scale research and demonstration studies, taking in consideration sustainability of technologies related to intensive horticulture, as well as environmental protection (not to increase eutrophication) social aspects, including labour conditions with

particular reference to gender issue. The demonstration sites should consider a wide range of environmental conditions and should also ensure that ensuring no adverse impact to degradation of surface and groundwater water quality of receiving waters and ensuring quality of soil is maintained.

Expected impacts

Proposals should contribute to implement priorities set in the PRIMA SRIA and show the clear link of how expected impacts from the projects are going to implement the expected outputs indicated in PRIMA SRIA

The project results must contribute to PRIMA Operational Objective 4^{1 2}

The project results are expected to contribute to:

- Improved efficiency and cost-effective climatic control procedures and technologies for Mediterranean year round greenhouse cultivation.
- Development of innovative technologies and practices for the production of organic crops.
- Development of innovative and environmental friendly integrated pest management practices.
- Development of new bio-degradable materials to be used in the cultivation systems able to minimize the disposal of residues and contaminants to the environment.
- Cost-effective and socially accepted new cultivation methods aimed at improving hand-labour conditions.
- Novel tools (best practices, decision support system, models, discussion and co-development platforms, ICT, etc.) assisting farmers to improve management.

¹ PRIMA SRIA Expected Outcome Thematic Area Farming Systems Operational Objective 4 page 27.

² Annex 1 of the Annual Work Plan 2019 pages 114-117: Table linking AWP 2019 call topics expected impact to SRIA expected outcomes.

Supporting information for the Section 1 Call for Proposals, Topic 1.2.2

Type of action	Innovation Action (IA)
<i>Total indicative amount allocated to this Call</i>	€ 6.4 million
<i>Funding level</i>	According to Horizon 2020 Rules 70% (except for non-profit legal entities, where a rate of 100% applies)
<i>Technology readiness levels</i>	5 to 8
<i>Expected number of grants</i>	Up to 4 (projects up to € 1,6 million each, – indicative amount)
<i>Expected duration of the projects</i>	36-48 months
<i>Eligibility conditions for participation</i>	Please refer to section <u>5.1.1</u> of Annual Work Plan 2019 The standard admissibility (section <u>5.1.2</u>) and eligibility conditions (section <u>5.1.3</u>) apply.
<i>Submission and evaluation procedure</i>	Two-stage application procedure. For the first stage, a short proposal (maximum 10 pages) must be submitted by the first deadline. Successful applicants in the first stage will be invited to submit a full proposal (maximum 50 pages) for the second stage. A timeline for the submission and evaluation of applications can be found in table 9 of Annual Work Plan 2019.
<i>Evaluation rules</i>	The award criteria, scoring, thresholds and weightings for IAs listed in part <u>5.1.6</u> of AWP 2019 will be used.
<i>Grant agreement</i>	PRIMA grant agreement (multi-beneficiary), based on Horizon 2020 Model Grant Agreement.
<i>Consortium agreement</i>	Participants in projects resulting from this Call for Proposals will be required to conclude a consortium agreement prior to the conclusion of the PRIMA grant agreement.