

Ministry of Agriculture
Institution for Agricultural Research and Higher Education
(IRESA)



ARIMNet project

WP 4: Funding of joint transnational research

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ARIMNet Projects



www.arimnet.net

WP 4: Funding of joint transnational research

Work package Leader: Morocco

Deputy Work package Leader: Greece

Task 4.4: Joint monitoring and evaluation of the selected transnational research programme(s), (Tunisia) IRESA

***Introduction**

The ARIMNet Project (Agricultural Research in the Mediterranean Network), funded by the European Union, aims at coordinating National Agricultural Research Programmes to strengthen the capacities of its members to address in a coordinated way the major challenges that the Mediterranean agriculture is facing. While agriculture in the countries around the Mediterranean is facing common issues and challenges, Agricultural Research in the Mediterranean is scattered and requires a coordination effort to step up the cooperation and coordination of research activities carried out at national level by joining forces to promote innovative research and cooperation. It is the purpose and the ambition of the members of the ARIMNet Project.

***The Work package (4): Funding of joint transnational research**

- Work breakdown - Tasks

Task 4.1: Selection of joint(s) programme(s) and of the joint(s) call(s), Task leader: partner 9, **MA**

Task 4.2: Evaluation and selection procedure, Task leader: partner 10, **EL**

Task 4.3: Joint project management, Task leader: partner 10, **EL**

Task 4.4: Joint monitoring and evaluation of the selected transnational research programme(s) Task leader: partner 11, **TN**

Task 4.5: Network coordination activities and support to the consortium management, Task leader: partner 1, **FR**

- **The objective of WP4 is to:**

- setup joint definition of programmes and develop consolidated mechanisms
- Launch an area wide programme on transnational funding

One of the objectives of ARIMNet project is to identify joint research programmes; to response to this objective the network launched a first call.

***Participants**

The conditions for participation to the call were:

The Team must include at least one from the 5 members of the European Union and one of the 6 South and Eastern Mediterranean countries. Each project proposal must Involve researchers from at least three countries members of the ARIMNet project (at least one from the EU and one from the Mediterranean Partner Countries) Projects should be of duration of maximum three years.

In the Call 2011, 11 countries involved in the funding of the joint research projects.

List of the ARIMNet Countries participating to the call

ARIMNet Countries	European Union Country	Mediterranean Partner Country
Algeria		X
Cyprus	X	
Egypt		X
France	X	
Greece	X	
Israel		X
Italy	X	
Morocco		X
Spain	X	
Tunisia		X
Turkey		X

In 2011 ARIMNet launched a call for transnational research projects proposals based on funds from 11 participating countries from the northern, eastern and southern part of the Mediterranean Basin. This call managed under the coordination of ARIMNet WP4 Leader (Morocco) and ARIMNet coordinator, INRA (FR). The scope of the call and the evaluation

procedures were decided and designed by the Steering Committee members and the funding agencies involved in this call.

This call aimed to enable collaborative interdisciplinary projects based on complementarities between scientists, disciplines and countries. Its objective was to promote international collaboration to create research consortia in order to respond appropriately to the global stakes and challenges Mediterranean Agriculture is facing.

The call was managed via Euracall, each funding agency was provided with a password and Login, in order to follow the projects submission, the teams were asked to fill in on the line their submission of each proposal. Each project was characterized by **Id** (Identification Number), Acronym, Title, Countries, National criteria, Summary and finally by two parts (**A**) and (**B**).see annexes

❖ **Timing of ARIMNet call**

Action	Scheduled
Pre-announcement of the Call	06 May 2011
Launching the Call and guidelines on website	20 June 2011
Deadline for submission of Letter of Intent	12 July 2011
Deadline for submission of proposals	25 September 2011
Eligibility check	26-28 September 2011
First Meeting of the Evaluation Committee	05 October 2011
Scientific peer review	05.10-15 December 2011
Meeting of the Evaluation Committee	19-20 Decembe 2011
Meeting of the Call Board and funding decisions	21 December 2011
Contract negotiation	First quarter of 2012
Expected start of projects	01 April 2012
Interim reports	October 2013
Final project reports	Within two months following the end of the projects (Spring 2015)

***Topics:**

1-Production systems and their components: Developing sustainable agricultural production in a context of increasing ecological and climatic stresses

a) Resilience, rusticity, flexibility of the production systems

- b) Improving the economic and environmental efficiency of production systems, agro ecology
- c) Integrated approaches to reduce endemic and emerging animal and plant disease
- d) Sustainable management of pastoral and rangeland farming
- e) Water saving techniques, reduction of chemical inputs, soil protection
- f) Agricultural and agro-environmental policies design

2- Food chain from production to distribution: Enhancing the advantages of Mediterranean agriculture in developing products with high added value

- a) Production and processing technologies
- b) Marketing, supply chain organization, transportation
- c) Food safety
- d) Quality standards, labelling, geographical indications
- e) Reducing post harvest losses
- f) Incentives for innovation, private and public investments

3- Landscape and resources uses for agricultural and environmental purposes: Sustainable management of land and natural resource

- a) Spatial aspects of agricultural use of natural resources
- b) Agro-ecosystems and landscape mosaics
- c) Periurban and urban agriculture
- d) Relationship between coastal areas and hinterland
- e) Land property and land structures
- f) Agricultural, environmental and rural development policies

***ARIMNet criteria**

Besides, the criteria defined by each funding agency, the consortium has fixed the general criteria as follows:

Each project proposal must:

- Involve researchers from at least three countries members of the ARIMNet project (at least
- one from the EU and one from the Mediterranean Partner Countries) providing funds for this Additional researchers from other countries are welcome in a Project Consortium, but will have to fund their own contribution to the research project
- Projects should be of a duration of maximum three years
- written in English, using the ARIMNet Application Forms provided on the submission website
- uploaded completed and correctly (including all required documents) via the submission website before the call deadline (September 25, 5 PM CET)
- Fit the formal requirements for proposal submission

Proposal were evaluated in a three stage process

1- First stage: scientific peer review

The scientific review of each project submitted has taken into account:

- Scientific (technical) excellence (originality, methods) and targeted output and Innovation
- Interdisciplinarity
- Feasibility of the proposal described by a detailed work plan
- Resources/implementation
- Quality of the consortium & management

2- Second stage: Project Selection

The Evaluation Committee proposed to the Call Board the final ranked list of projects

3- Third stage: project selection

The final decision was done by the call board, taking into account the ranking by the Evaluation

❖ List of ARIMNet project

*List of proposal (A): 22 projects

*List of proposal (B): 30 projects

*Evaluation

The evaluation was done by an international committee of higher level scientists and external referees, The first task achieved by the call board with the support of the ARIMNet partners was the constitution of database of evaluation committee (EC) members (3 per countries) and referees, the coordination proposed a chairman to the CB. The members of the EC and the chairman were officially approved by the call board in July 2011.

The role of each member of the Evaluation Committee is to participate as an independent scientist to the evaluation procedure. He should remain independent of any country or scientific consortium interests. The role of the Chair is to inform and manage the Evaluation Committee and to preside its meetings, to present the results of the evaluation to the Call Board the Evaluation Committee will classify the proposals in three categories: very good, should accepted by **(A)**, good but would need further improvements financed by **(B)**, refused by **(C)**. In the first category the projects ranked according to their scientific quality and an A+ category concentrated the few outstanding projects. The results of the scientific evaluation presented by the President of the Evaluation Committee at the beginning of the December 21 Call Board Meeting.

*Call statistics

A/Number of projects, partners (organisations may be counted several times) and coordinators per country:



Country	Projects	Partners	Coordinators
Algeria	21	29	1
Australia	1	1	0
Brazil	1	1	0
Cyprus	8	10	0
Egypt	27	36	12
France	60	108	24
Germany	2	2	0
Greece	15	17	1
Israel	14	22	3
Italy	50	77	19
Morocco	58	87	11
Netherlands	1	1	0
Not defined	3	7	0
Pakistan	1	1	0
Portugal	3	3	0
Spain	49	71	7
Switzerland	1	1	0
Tunisia	48	60	6

Turkey	26	31	3
Ukraine	1	1	0
United States	3	3	0
Total	–	–	99

B/ Number of projects per topic and sub_topic.

1- Production systems and their components: Developing sustainable agricultural production in a context of increasing ecological and climatic stresses	66
a) Resilience, rusticity, flexibility of the production systems	36
b) Improving the economic and environmental efficiency of production systems, agro ecology	31
c) Integrated approaches to reduce endemic and emerging animal and plant diseases	24
d) Sustainable management of pastoral and rangeland farming	6
e) Water saving techniques, reduction of chemical inputs, soil protection	37
f) Agricultural and agro-environmental policies design	8
2- Food chain from production to distribution: Enhancing the advantages of Mediterranean agriculture in developing products with high added value	40
a) Production and processing technologies	13
b) Marketing, supply chain organization, transportation	6
c) Food safety	27
d) Quality standards, labelling, geographical indications	19
e) Reducing post harvest losses	3
f) Incentives for innovation, private and public investments	3
3- Landscape and resources uses for agricultural and environmental purposes: Sustainable management of land and natural resources	18
a) Spatial aspects of agricultural use of natural resources	11
b) Agro-ecosystems and landscape mosaics	9
c) Periurban and urban agriculture	4
d) Relationship between coastal areas and hinterland	1
e) Land property and land structures	3
f) Agricultural, environmental and rural development policies	10

*Results of the call

-  86 research proposals submitted for funding
-  79 declared eligible and submitted to evaluation
- **WP4: work performed**

- 67 emails to announce the evaluation process to coordinators (including evaluation reports for each project)
- 136 certificates sent to evaluation experts
- 150 exchanged emails with panel experts concerning evaluation fees

Finally, 10 projects were selected for funding

Acronym	Title	Coordinator	Partners
DOMESTIC	Mediterranean bioDiversity as a tool for the sustainable development of the small ruminant sector: from Traditional knowledge to Innovation	NAGREF - Greece	GR, FR, CY, MA
PESTOLIVE	Contribution of olive history for the management of soil-borne parasites in the Mediterranean basin	IRD – France	FR, GR, MA, SP, TN, TR
APMED	Apple and Peach in Mediterranean orchards – Integrating tree water status and irrigation management for coping with water scarcity and aphid control	INRA - France	FR, IL, IT, MA, SP
SAFEMED	Food safety regulations, market access and international competition	INRA - France	FR, IT, MA, TN, SP, DZ
POH-MED	Potato Health – Managed for Efficacy and Durability	INRA - France	FR, DZ, MA, EG
CLIMED	The future of Mediterranean Livestock Farming Systems: opportunity and efficiency of Crop–Livestock Integration	CIRAD - France	FR, MA, EG
REFORMA	Resilient, water- and energy-efficient forage and feed crops for Mediterranean agricultural systems	CRA-FLC - Italy	IT, FR, MA, TN, USA

MEDILEG	“Breeding, agronomic and biotechnological approaches for reintegration and revalorization of legumes in Mediterranean agriculture”	CSIC - Spain	SP, MA, FR, IT, TN, PT, EG, DZ
ARIDWASTE	Development of specific agricultural practices with the use of recycled wastes suitable for intensively cultivated Mediterranean areas under degradation risk	GREECE	GR, IL, IT, SP
SWIPE	Predicting whitefly population outbreaks in changing environments	ISRAEL	IL, FR, SP, GR, IT, TR, CH , USA

- five projects are coordinated by **France** “Agence National de la Recherche”
- two projects are coordinated by **GREECE** “National Agricultural Research Foundation”
- one project is coordinated by **ISRAEL** “Ministry of Agriculture and Rural Development, MOARD”
- one project is coordinated by **Spain** “instituto Nacional de Investigacion y Tecnologia Agraria y Alimentaria, INIA”
- one project is coordinated by **Italy** “Ministero delle Politiche Agricole Alimentari e Forestali, MIPAAF

Statistics by country

Country	Number of participation
France	9
Italy	6
Algeria	3
Spain	6
Turkey	2
Egypt	3
Morocco	8

Greece	4
Tunisia	4
Cyprus	1
Israel	3

A total virtual common pot of 6 million euros was created by 11 countries to support the call; Portugal not decided to take part into the financing of projects.

Total Budget of 10 projects

Project	Budget
DOMESTIC	
PESTOLIVE	
APMED	
SAFEMED	
POH-MED	
CLIMED	
REFORMA	
MEDILEG	
ARIDWASTE	
SWIPE	

***Comments**

- ✓ Unbalance between countries in finding
- ✓ delay of funding agreement (Morocco, Algeria, Spain), which cause a delay in kick off of some projects
- ✓ Unbalance between topics

- ✓ Problems in some countries : participation of teams either of the funding agencies (Tunisia)

***Advancement on 31 December 2012**

The projects have a duration of 3 years. Only four projects started in the second half of 2012. The other projects will hold then the kick off meeting will start in 2013.

Project	Kick off
DOMESTIC	4&5 July 2012, Dairy Research Institute, Ioannina, Greece
SWIPE	21&22 July 2012 Krakow, Poland
MEDILEG	Tunis 4&6 September 2012
APMED	15&18 October 2012 Montpellier, France
POH-MED	probably January 2013, France
CLIMED	February 2013
PESTOLIVE	2013
SAFEMED	2013
REFORMA	2013
ARIDWASTE	2013

The ARIMNet Consortium has organized a common meeting of ARIMNet final conference in Rome on November 14 & 15, 2012. The first day was reserved to The ARIMNet call results were presented the 10 selected projects of the Call 2011, and the second day of the meeting was reserved to take stock of the four years of the ERA-Net project to prepare the common future of (**ARIMNet 2**) in order to deepened and enlarged cooperation.

The team of IRESA with the collaboration of INRA France has relooked the web site of ARIMNet project in order to get more visibility on the 10 projects selected for funding within the first call.

DoMEsTic (191)



www.arim-domestic.net

Title: Mediterranean biodiversity as a tool for the sustainable development of the small ruminant sector: from traditional knowledge to innovation

Keywords: local breeds, sheep, goats, biodiversity, pastoral systems, typical products

Duration: 30 months

Project details

Coordinator(s): Mrs. Christina Ligda

Consortium: 4 partners from 4 countries

Disciplines:

*Sustainable management of pastoral and rangeland farming

*Resilience, rusticity, flexibility of the production systems

Description

In the Mediterranean region, rangeland and pastoral systems considered as the traditional way of farming contain elements that can be proved of high value under the new conditions, related with the need for the protection of the environment and biodiversity and with consumer demands on safe and quality products. These production systems utilizing local genetic resources adapted to the production environment could increase their profitability through the modernization of the production systems and by enhancing the means of commercialization of the products.

Objectives

The “**DoMEsTic**” project aims at investigate the factors that influence the sustainability of pastoral and rangeland production systems in the participating countries, focusing on sheep and goat production, towards this aim, the following aspects will be examined:

- the different components of the production systems, the role of local authorities and the organization at territorial level
- the distribution of the products through the supply chain, the trends in the market and the role of the different stakeholders

Work packages

WP 1: Components of the Production System

WP 2: Collective organization at territorial level

WP 3: Supply chain and Market analysis

WP 4: Assessment of the sustainability of the system

WP 5: Mediterranean Platform consolidating traditional knowledge and innovation

WP 6: Project Coordination and Management

Expected results

The expected results aim to improve the overall competitiveness and sustainability of the pastoral and rangeland production systems, the supply chain analysis will contribute to increase our knowledge on the current situation of the market and to improve the position of the products in the market. The assessment of the sustainability of the system will be used as the basis to propose a regulatory framework in order to establish and enforce rules for the cooperation of local actors and propose advising tools for the implementation of valorization projects, breeding schemes and commercialization strategies, by conciliating the objectives of various local stakeholders.

Participants

*National Agricultural Research Foundation - Veterinary Research Institute – Thessalonki
NAGREF (Greece)

*Institut National de la Recherche Agronomique, SAD LRDE (France)

*Agricultural Research Institute, Nicosia (Cyprus)

*Institut Agronomique et Vétérinaire Hassan II (Morocco)

PESTOLIVE (216)



Title: Contribution of olive history for the management of soil borne parasite in the Mediterranean basin

Keywords: Breeding domestication management olive root parasites

Duration: 36 months

*Project details

Coordinator: Mr. Thierry Mateille

Consortium: 17 partners from 5 countries

Disciplines:

*Plant ecology, plants genetics plant nematology pathology systematic phylogeny phylogeography population genetics ecology of communities' genetic breeding biological control.

*Description

"**PESTOLIVE**" aims at producing knowledge and tools for a new and efficient management of **plant-parasitic nematodes (PPN)** and **plant-pathogenic fungi (PPF)** in olive (**Olea europea**) cropping systems and nurseries, while reducing the use of pesticides because of the anthropic continuum from *Olea* post-glacial refuges oleasters(domestication) and then to olive-trees (breeding and cropping), the fragmentation of the (**PPN**) and (**PPF**) communities and of their natural enemies could explain the scattered diversity of the control techniques (especially resistance rootstocks, bio control, cropping strategies) developed and applied all around the Mediterranean basin. The "**Pestolive** " project involves 18 research and teaching organizations from seven Mediterranean countries in order to promote international multidisciplinary collaboration, training co-supervision and shared technical platforms within the consortium., attachments with national and international councils (e.g. **IOC**) will guaranty communication with local producer organizations in order to fit with olive and oil production constraints to implement production strategies with innovative methods for soil-borne pest management.

*Objectives

The objective of "**PESTOLIVE**" project is to help the development of new sustainable management strategies by involving enlightenment about historical co-adaptation of soil-borne parasite communities to olive-tree domestication, breeding and cropping, in order to provide adequate answers to questions emerging from the weakening of mediterranean eco-anthroposystems due to soil-borne parasites, "**PESTOLIVE**" would develop an integrated

network of pan-mediterranean research focused on two soil-borne pest groups, plant-parasitic nematodes.

***Work packages**

WP 0: Project management

WP 1: Olive domestication and breeding

WP 2: Response of soil-borne organisms to domestication and breeding

WP 3: Response of soil borne organisms to plant-resistance

WP 4: Response of soil-borne organisms to cropping systems

***Expected impacts**

- Expected results will provide new insights on olive phylogeography at geographical fine scale to identify the importance of eastern gene pool into Mediterranean cultivars and feral forms. Besides, a detailed knowledge of the diversity of wild olive populations, as well as of their distribution represents an alternative approach of great potential value for breeding of this species.
- Results will improve the scientific knowledge of development and pathogenicity of **PPN (plant-parasitic nematodes)** and **PPF (plant-pathogenic fungi)** in wild and cultivated olives, as well as the durability of resistant genotypes.
- New technologies for a cheap molecular diagnosis of “**PPN**” and “**PPF**” will be processed and designed

***Participants**

*CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE UNIVERSITE PAUL SABATIER (France)

*IRD (France)

*INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (France)

*NATIONAL AGRICULTURAL RESEARCH FOUNDATION PLANT PROTECTION INSTITUTE (Greece)

*ISTITUTO PER LA PROTEZIONE DELLE PIANTE (Italy)

* ISTITUTO AGRONOMICO MEDITERRANEO (BARI)

* INSTITUT AGRONOMIQUE ET VETERINAIRE HASSAN II (Morocco)

* INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (Morocco)

* UNIVERSITE CADI AYYAD MARRAKECH FACULTE DES SCIENCES ET TECHNIQUES EL GUELIZ

(Morocco)

- * UNIVERSITE IBN ZOHR FACULTE DES SCIENCES (Morocco)
- * UNIVERSITE ABDELMALEK ESSAADI - FACULTE DES SCIENCES DE TETOUAN (Morocco)
- * INSTITUTO D'AGRICULTURA SOSTENIBLE (Spain)
- * INSTITUTO ANDALUZ DE INVESTIGACIÓN Y FORMACIÓN AGRARIA (Spain)
- * INSTITUT NATIONAL AGRONOMIQUE DE TUNISIE (Tunisia)
- * INSTITUT DE L'OLIVIER (Tunisia)
- * INSTITUT SUPERIEUR AGRONOMIQUE (Tunisia)
- * BATI AKDENIZ AGRICULTURAL RESEARCH INSTITUTE (Turkey)
- * OLIVE RESEARCH INSTITUTE (Turkey)

APMed (223)

Title: Apple and Peach in Mediterranean orchards – Integrating tree water status and irrigation management for coping with water scarcity and aphid control

Keywords: Fruit tree, ecophysiology, water management, aphid infestation, modeling

Duration: 36 months

Project details

Coordinator(s): Mr. Pierre- Eric Lauri

Consortium: 6 partners from 5 countries

Disciplines:*Improving the economic and environmental efficiency of production systems

*Integrate approaches to reduce endemic and emerging animal and plant diseases

*Resilience, rusticity, flexibility of the production system

Description

The profitability of deciduous fruit orchards in semi-arid zones, especially in southern and eastern Mediterranean countries, depends on irrigation water availability throughout the growing season, the studies of water stress effects on growth have been mostly conducted on annuals focusing on crop management and the physiological and molecular mechanisms underpinning water use efficiency, unlike annuals, whose life cycle only depends on current conditions without investment in perennial structures, fruit tree development in any year strongly depends on the environmental conditions in the preceding years, still unanswered is the scientific question of how the fruit tree uses water to grow, flower, fruit and at the same time develop buds for the next season, also, there is a crucial need for irrigation protocols to manage severe and temporal reductions in water availability, the water management techniques not only modify growing and fruiting patterns, but also pest dynamics, the drive towards sustainable agriculture by reduced inputs, especially of chemicals, strengthens the idea that pest infestation has to be considered within water management strategies.

Objectives

- Development of management tools for severe water scarcity seasons regulated deficit irrigation at specific phenological stages, pruning and thinning strategies
- Development of water stress assessment strategies that would assist growers in optimizing irrigation regimes
- Assessment of water stress on aphid infestations at both experimental and commercial orchard level

- Development of protocols for early selection of drought tolerant cultivars and rootstocks by studying the responses of fruit trees to water stress

Work packages

WP 1: Exploring the range of adaptations to drought observed among Apple progenies, focusing on growth

WP 2: Impact of water availability on aphid infestation

WP 3: Improvements of water and N management techniques according to their ability to maintain high quality of fruit production and reducing aphid infestations on Apple and Peach

WP 4: Modeling water and N management techniques according to their ability to maintain high quality of fruit production and reducing aphid infestations on Apple and Peach

WP 5: Organization and Dissemination

Expected impacts

The “**APMed**” project aims at answering the three following questions:

- From a **horticultural** viewpoint, the applications are twofold, first, to improve water management in Apple and Peach orchards based on plant water stress indicators integrating tree phenology and crop assessment and defining more accurate thresholds for irrigation. Second, to assess the interest of these methods
- From a **scientific research** viewpoint First, do diagnoses on ecophysiology traits Second, are interactions between xylem hydraulics and leaf ecophysiology able to discriminate genotypes with regards to their water use strategy
- Models are expected to provide simulations of fruit tree architecture and essential functions leading to fruit quality that will account for various levels of water supply, climatic conditions, and aphid infestation, during the project, new models and modules are expected to be generated in order to be available for the community

Participants

*National Institute for Agricultural Research **INRA** (France)

*Galilee Technology Center – SME **MIGAL** (Israel)

* University of Bologna **UNIBO** (Italy)

* Moulay Ismail Faculty of sciences Meknes Morocco UMI (Morocco)

* Institut de Recerca i Tecnologia Agroalimentàries (Cataluña) IRTA (Spain)

SAFEMED (270)

Title: Food safety regulations, market access and international competition

Keywords: food safety, regulation, supply chain, consumer's health, market access, stakeholder strategies.

Duration: 36 months

***Project details**

Coordinator: Mr. Abdelhakim Hammoudi

Consortium: 6 participants from 6 countries

Disciplines: Economy, Management, Microbiology

***Description**

The "**SAFEMED**" Project aims at analyzing the conditions for an international co-regulation of food safety between North and South Mediterranean sides, it consists in analyzing the structure of the competition between supply chains of both sides and examining the possibilities for a coordination of public and private food safety strategies.

***Objectives**

The objective of "**SAFEMED**" Project is to propose public policy scenarios in terms of food safety international co-governance, in this perspective we expect to point out the factors that essentially concern firms cooperation and coordination, that essentially fall within public regulation and coordination among States, have to be subjected to incentive mechanisms finally have to be left to free competition.

***Work packages**

WP 1: Organization of production and export systems at national level

WP 2: Organization of international supply chains

WP 3: Consumers' behaviour and interdependence in food safety issues

WP 4: Public policies for food safety

WP 5: Demonstration and dissemination of results

WP 6: Project management and assessment

***Expected impacts**

Results are expected to be achieved:

- Highlight the interactions between regulations (maximum residues limits for toxins, pesticides, heavy metals, etc.) and control systems, point out possible “risky behaviours” by exporters and analyse the incentive to implement good agricultural practices
- Highlight the role of international supply chains and their importance in the North/South competition and market access; effects on producers’ exclusion from the market, value and risk sharing among supply chain participants; interventions for sanitary risk reduction
- Understanding the role of consumer behaviour in international interdependencies
- Analysing the effects of public policies on the incentive to implement good agricultural practices, control of harmful products detection (at national and border level); propose public policy scenarios in terms of a food safety international co-governance

***Participants**

*Université de Bologne, Dipartimento di Economia e Ingegneria Agrarie (Italy)

*Agronomic and Veterinary Institute (Morocco)

*INAT, Département d’Economie, Gestion Agricole et Agro-alimentaire (Tunisia)

* Universidad d’Almería, Departamento d’Economía Aplicada (Spain)

* Ecole Nationale Supérieure d’Agronomie (Algeria)

* Institut National de la Recherche Agronomique, ALISS (France)

PoH-MED (325)

Title: Potato Health - Managed for Efficiency and Durability

Keywords: potato, disease management, system sustainability, biodiversity

Duration: 36 months

Project details

Coordinator(s):Mr. Didier Andrivon

Consortium: 11 partners from 4 countries

Disciplines:

*Improve the economic and environmental efficiency of production systems, agro ecology

*Integrate approaches to reduce endemic and emerging animal and plant diseases

*Water saving techniques, reduction of chemical inputs, soil protection

Description

Potato is a major food and trade crop on both sides of the Mediterranean sea, its vegetative mode of propagation and high economic value foster continuous exchange of living material, long production cycles, and severe losses to microbial diseases during vegetation or storage. This vulnerability is enhanced by the diversity of the production systems into which the crop is grown, and by changes in the geographical distribution of emerging or re-emerging parasites resulting from climate change and seed trade. Developing sustainable potato protection strategies, with low or no pesticide applications, is therefore a major challenge to improve the economic, environmental and human performance of potato production worldwide.

Objectives

“PoH-MED” project aims at enhancing the sustainability of potato protection in the Mediterranean area, through three complementary working directions:

- Assess and combine non-pesticide control methods (resistant cultivars, plant defense stimulators, irrigation management) identified during the project or in earlier collaborative work
- Disseminate key findings through participatory actions with growers organizations

Work packages

WP 1: Deciphering pathogen population structures

WP 2: Designing, assessing and integrating low input control methods

WP 3: Disseminating information through participatory actions

Expected results

The **"PoH-MED"** project will generate both academic productions and technological advances directly transferable to growers, the academic part will target wide-audience journals, promoting the diffusion of key findings to the scientific community, the technological developments (e.g. natural molecules with anti-microbial or plant-strengthening effects) will either be subject to IP (and thus liable to generate commercial developments) or made directly available for use through the demonstration platforms.

In all cases, **"PoH-MED"** will benefit Mediterranean agriculture and Mediterranean populations by helping the reinforce of food security, through fewer losses to diseases and prevention of accumulation of harmful residues, to promote better water management and use (avoiding microbial contamination and pesticide pollution; adjusting irrigation quantities to plant and soil status), and improve the public health by limiting pesticide diffusion in the environment and food and by limiting farmer's exposure to toxic chemicals. In the longer run, **"PoH-MED"** is expected to contribute to more sustainable potato production and trade over the Mediterranean basin.

Participants

- * Institut de Génétique, Environnement et Protection des Plantes **INRA**, (France)
- *ENSA El Harrach (Algeria)
- *Laboratoire Microbiologie Appliquée, Université Bejaia (Algeria)
- *Université Hassan 2, Faculté Sciences et techniques (Morocco)
- * Institut National de la Protection des Végétaux (Algeria)
- * Fédération Nationale des Producteurs de Plants de Pomme de terre (France)
- * Centre National de Contrôle et de Certification (Algeria)
- * Laboratoire Electrophysiologie des Membranes (France)
- *Central Administration for Seed Certification (Egypt)
- *Groupement National Interprofessionnel des Semences (France)
- *Institut Technique des Cultures Maraîchères et Industrielles (Algeria)

CLIMED (371)

Title: The future of Mediterranean Livestock Farming Systems: Opportunity and efficiency of Crops – Livestock Integration

Keywords: **Duration:** Livestock, Adaptation, vulnerability, ecological intensification, , socio-ecological system

Project details

Coordinator(s): Mr. Véronique Alary

Consortium: 5 partners from 3 countries

Disciplines:

*Sustainable management of pastoral and rangeland farming

*Improving the economic and environmental efficiency of production systems, agro ecology;

*Resilience, rusticity, flexibility of the production systems;

Description

The Mediterranean livestock farming systems need to adapt with multiple and complex changes in the past and present history of the zone. The project aims to assess technical, economic and socio-ecological viability of crop livestock systems in the Mediterranean context to help farmers, local communities, researchers and decision makers in thinking future planning for Mediterranean livestock and in designing priorities, rules, policies that could better deal with the socio-environmental issues in link with demographic and land pressure, increasing demand and strong international competition.

Objectives

- Identifying efficient crop-livestock systems to better valorize a combination of resources: water, soil, inputs, crop residues, and increase the production to meet the rising local demand of safe animal products
- Assessing their adaptive capacities in terms of vulnerability and flexibility faced to current changes and socio-ecological co viability faced to demographic growth, and in a historical perspective
- Developing future scenarios and priorities for livestock development in the Mediterranean context
- Developing an integrative and interdisciplinary analytical framework for assessing socio-ecological resilience of crop-livestock systems

Work packages

WP 1: Coordination

WP 2: Global context for livestock

WP 3: Assessment of the environmental and economic efficiency of Mediterranean crop livestock systems

WP 4: Assessment of the adaptive capacities to change

WP 5: Assessment of socio-ecological sustainability (co viability) and future scenarios

Expected impacts

One expected benefit of the project will be the strengthening of synergies and scientific collaborations between the partners given the interdisciplinary nature of it. The project will contribute concretely to strengthen the links between institutes that work already together in the Mediterranean context: **ARC-APRI** and **IAV** in the South and **INRA**, **CIRAD** and **IRD** in the North, and their national and international partners. Another expected result is the production of analysis methods (disciplinary, interdisciplinary and comparative analysis) shared on the national and international data bases in Mediterranean (national data bases, **FAO**, **World Bank**, **IFAD**).

Participants

* International Centre of Agricultural Research for Development CIRAD (France)

* IAV Hassan II (Morocco)

* APRI/ ARC (Egypt)

* National Institute of Agronomic Research (France)

* Institut de Recherche pour le Développement (France)

REFORMA (374)

Title: Resilient, water- and energy-Efficient forage and feed crops for Mediterranean Agricultural systems

Keywords: Drought tolerance, Forage crops, Genomics, Grain Legumes, Plant breeding

Duration: 36 months

***Project details**

Coordinator: Mr. Paolo Annicchiarico

Consortium: 9 participants from 6 countries

Disciplines:

*Genetic variation, phenotypic selection, genomics and opportunities for marker-assisted selection, for lucerne (*Medicago sativa*) targeted to different growing conditions.

***Description**

Crop-livestock and feed systems have huge importance for Mediterranean regions to satisfy the increasing population demand for animal products (**milk, eggs, meat**), to increase the economic stability of smallholders and to produce typical animal products with high added-value, while contributing in all cases to sustainable farming, environment protection, and efficient nutrient cycling. These systems are threatened, however, by the marked insufficiency of high-protein feedstuff, the overexploitation of forage resources, the increasing costs, the decreasing availability of irrigation water, the mineral fertilizers, the increasing drought and heat stress arising from climate change.

***Objectives**

The main objective of **“REFORMA”** project is to strengthening the economic and environmental sustainability of Mediterranean crop-livestock and feed systems, also by enhancing their self-sufficiency for feed proteins and their ability to adapt to and to mitigate climate change, this is pursued by developing more resilient and more water- and energy-efficient systems based on genetically-improved forage and feed legume species.

The objectives of the Research Consortium are:

- Enhancing the forage yield, persistence and forage quality of Lucerne in Mediterranean environments subjected to severe drought stress, high temperatures and/or salinity, by selecting phenol typically stress tolerant varieties and by defining innovative breeding strategies based on marker-assisted selection (**MAS**) and on ecologically-based selection procedures and adaptation targets

- Producing drought-tolerant pea varieties for grain or forage production by phenotypic selection in stress environments and by definition of innovative **MAS** procedures and ecological selection strategies

- Optimizing the cultivation and use of pea- and lucerne-based forage crops in climatically-different drought prone mediterranean environments, comparing mixtures including pea, lucerne or other legumes among themselves and with monocultures of their component species in terms of yielding ability, resilience, forage quality and acceptability by farmers

***Work packages**

WP 1: Ecological breeding strategies and variety selection

WP 2: Genomics and definition of marker-assisted selection procedures

WP 3: Assessment and optimization of innovative legume-based crops

WP 4: Coordinating the research management and dissemination activities of this project.

***Expected impacts**

The project will produce:

- Lucerne varieties with good forage quality and with greater resilience than the available varieties due to distinctly greater tolerance to drought, salinity and grazing. These varieties possibly having multiple stress tolerance will be bred and made available for national seed systems of **(Algeria, Italy, Morocco and Tunisia)**

- Pea varieties for grain and forage production with distinctly greater drought tolerance than the available varieties, for national seed systems of **(Algeria, Italy and Morocco)**

- Innovative cost-efficient breeding strategies based on the integration of ecological selection procedures and marker-assisted selection, whose implementation by each partner institution (favored by a final training workshop) after appropriate validation will further improve the genetic resilience of lucerne and pea varieties

- Optimization of lucerne-based and pea-based forage crops in relation to legume plant types, associated grass or cereal species, extent of drought stress, acceptability by farmers, and target forage quality and utilization also by means of a final workshop aimed to define optimal diets including innovative forage crops or pea grain for different animal species and production levels.

***Participants**

- *CRA Centro di Ricerca per le Produzioni Foraggere e Lattiero-Casearie (Italy)
- *INRA Unité de Recherche Pluridisciplinaire Prairies et Plantes Fourragères, Lusignan (France)
- * INRA Unité Mixte de Recherches en Génétique et Ecophysiologie des Légumineuses à Graines, Dijon (France)
- * Institut National de la Recherche Agronomique (INRA) (Morocco)
- * Institut National de Recherche Agronomique Algérie (Algeria)
- *Ecole Nationale Supérieure Agronomique (Algeria)
- *CNR Istituto per il Sistema Produzione Animale in Ambiente Mediterraneo, Sassari (Italy)
- *The Samuel Roberts Noble Foundation, Ardmore (United States)
- *Institut des Régions Arides (IRA), Médenine (Tunisia)

MEDILEG (396)

Title: Breeding, agronomic and biotechnological approaches for reintegration and revalorization of legumes in Mediterranean agriculture

Keywords: legumes, breeding, crop protection, stress resistance, epidemiology

Duration: 36 months

***Project details**

Coordinator: Mr. Diego Rubiales

Consortium: 10 partners from 8 countries

Disciplines:

*Grain legumes are rightly considered as one of the most promising sources of calories and proteins for the Mediterranean countries, they have a great potential in crop rotation due to its capability of nitrogen fixation, especially in drought conditions.

***Description**

A collaborative interdisciplinary initiative is proposed to promote grain legume cultivation in Mediterranean countries, it includes biotechnologists, agronomists, plant breeders, crop physiologists, organic chemists and psychopathologists from (**Algeria, Egypt, France, Italy, Morocco, Portugal, Spain and Tunisia**) in order, to evaluate currently and previously grown grain legume varieties for characteristics of importance to sustainable agriculture and to apply novel tools to integrate genetic resistance with other control practices in a concerted manner, priority is given to the combination of increased yield and resistance to biotic and a biotic stresses, epidemiology and integrated management, thus allowing for the production of leguminous crops of high value in crop rotations of low input and stable yield.

***Objectives**

The main objective of this project is to stabilize the yield and production of major food legume cultivars adapted to different climatic conditions encountered in the Mediterranean region.

***Work packages**

WP 0: Research coordination of the consortium

WP 1: Identification of regional priorities and definition of target genotype

WP 2: Studies relevant of breeding for resistance to major biotic constraints

WP 3: Studies relevant for breeding for major a biotic constraint

WP 4: Marker assisted breeding

WP 5: Epidemiological studies

***Expected impacts**

Using legume based cropping systems will make Mediterranean agriculture less dependent on fertilizers and self-sufficient for protein supplies which will decrease its dependency on imports, it is a tremendous importance to provide income to Mediterranean farmers through new cultivars and optimized crop protection practices, the project will also lead to a better understanding of the responses of legumes to stresses at the physiological and molecular levels better usage of information derived from one legume for improvement of another thereby accelerating crop breeding an effective Mediterranean network that can fully exploit this valuable group of crops improved food and feed security for Mediterranean region.

***Participants**

- * INRA-Morocco (Morocco)
- * National Institute of Agronomic Research (France)
- * National Institute of Agronomic Research (France)
- * Univ. of Naples Federico II (Italy)
- * Institut National de la Recherche Agronomique de Tunisie (Tunisia)
- * Regional Field Crop Research Center of Beja (Tunisia)
- * Institut Agronomique et Vétérinaire Hassan II (Morocco)
- * ITQB, Univ Nova Lisboa (Portugal)
- * Agricultural Research Center (Egypt)
- * Ecole Nationale Supérieure Agronomique (Algeria)

ARIDWASTE (495)



Title: Development of specific agricultural practices with the use of recycle wastes suitable for intensively cultivated **Mediterranean Areas** under degradation risk

Keywords: Soil quality, degradation, application practices, recycles waste

Duration: 36 months

Project details

Coordinator: Mr. Victor Kavvadias

Consortium: 5 partners from 4 countries

Disciplines:

*Resilience, rusticity, flexibility of the production system

Description

Although some of the up to now developed technologies for "**AridWaste**" treatment have studied the effects of treated wastes on growth and yield parameters of a few crops, it should be noticed that in order (**AW**) to be used safely in agriculture, specific cultivation practices should be developed after detailed study of environmental conditions, water and nutrients demand of the specific crops related to waste applications, impact of wastes on soil and plant parameters. So far, general guidelines have been developed for the use of treated wastes in agriculture. Moreover, new and innovative treatment methods have been funded and developed, however, none of them specifies the exact dosage and way of application focused on specific cultivated crop, soil and environmental conditions, since they are either general or not oriented to the need of specific crop, soil and climate conditions.

Objectives

The overall objective of the "**ARIDWASTE**" project is to research, advance and finally develop alternative low cost and environment friendly agricultural practices across Med basin with the use of treated agricultural wastes (**AW**) by recycling nutrients and water from treated agricultural wastes taking also advantage of the beneficial, unique properties of natural zeolite.

Work packages

WP 1: Project Management and monitoring

WP 2: Assessment of application practices of processed (**AridWaste**) in intensive crop production Policy issues for agricultural application

WP 3: Evaluation of treated wastes

WP 4: Quality plant response tests of the selected recycled organic wastes, development of sustainable (**AridWaste**) application practices

WP 5: Application of treated wastes and zeolite in field

WP 6: Use of treated Agricultural Wastes in Mediterranean agricultural sector development of integrated scenario

WP 7: Development of dissemination and marketing strategy and network establishment

Expected impacts

The development of a Code for Sustainable (**AridWaste**) Management Practices in intensive crop production (e.g. **vegetables**) will include all appropriate data for the application of the AW in agriculture (handling, application practices, properties, benefits, impacts, yield, cost, etc). Thus, the results of the project will deeply impact the conventional crop nutrient management techniques as these are nowadays applied and will bring strong environmental, technical, social and economical benefits.

Participants

*National Agricultural Research Foundation (Greece)

*Galilee Technology Center (Israel)

*Regional Center for Agricultural Experimentation and Assistance (Italy)

***Institut de l'Olivier - Unité spécialisée de Sousse (Tunisia)**

*Centro de Edafología y Biología Aplicada del Segura - Consejo Superior de Investigaciones Científicas (Spain)

SWIPE (189)

SWIPE

Title: Predicting whitefly population outbreaks in changing environments

Keywords: Bacterial symbiont, Bemisia, biological control, climate change, pest invasion, pesticide resistance

Duration: 36 months

Project details

Coordinator(s): Mr. Einat Zchori-Fein

Consortium: 10 partners 8 countries

Disciplines:

*Resilience, rusticity, flexibility of the production systems

Description

Both climate change and global trade are important drivers of changes in the abundance and distribution of insect pests, whiteflies (**Homoptera, Aleyrodidae**) are important plant pests and virus vectors in many agricultural systems worldwide, among them, the sweet potato whitefly, *Bemisia tabaci* (**Gennadius**) is considered the most devastating pest of vegetables, ornamentals, and agronomic crops throughout the tropical and subtropical regions of the world, because it can transmit over 200 species of plant viruses.

Objectives

The overall goal of this proposal is to produce new knowledge which will allow developing novel strategies for reducing the direct and indirect damage inflicted by "**B. tabaci**", it aims to predict the evolution of "**B. tabaci**"i populations around the Mediterranean, from which diagnostic and preventive measures can be derived. To achieve this goal, it is imperative to understand how different biotic and biotic factors interact to favor population outbreaks.

Work packages

WP 1: Distribution, genetic and symbiotic structure of **B. tabaci** population

WP 2: International trade and **B. tabaci** invasion routes

WP 3: The influence of genetic differentiation on life history traits

WP 4: Risk assessment models

WP 5: Network activities

Expected impacts

As whiteflies have been established as important pests in many agricultural crops throughout the world, plant viruses became a major threat and direct insect feeding damage has increased, often destroying 100% of crop, hard pesticides are currently needed for whitefly control, leading to environmental contamination and inevitably, insecticide resistance, development of alternative, control and management methods is thus urgently needed. The observation that biotypes of the same whitefly species differ in various fitness traits suggests that they are differentially adapted to habitats and environments, biotypes and population's replacement can be expected under climatic changes leading to population outbreaks. These complexities must also be considered in a multi-trophic interactions perspective which takes into account the whitefly pests, their economically important plant hosts, and their natural enemies.

Participants

- *University Lyon 1 (France)
- * University of Valencia (Spain)
- *University of Western (Greece)
- *University of Western Greece (Israel)
- *CNR-Istituto per la Protezione delle Piante (Italy)
- * National Agricultural Research Foundation, Plant Protection Institute of Heraklion (Greece)
- *Ankara University (Turkey)
- *University of Arizona (United States)
- * Agro scope(Switzerland)
- *University of Crete (Greece)
- *Instituto Valenciano de Investigaciones Agrarias (Valencian Agricultural Research Institute) (Spain)
- * Ankara Plant Protection Central Research Institute (Turkey)
- * Cukurova University (Turkey)
- * Hebrew University of Jerusalem (Israel)

ANNEXE (1)

Part a

***Proposal Identification Number (Id)**

A1. Project title

A2. Project Acronym

A3. Topics and sub-topics

A4. Keywords

A.5 Duration of the proposed research project

A.6 Any supplementary information relevant to the submission of the proposal

A.7 Contact details Project Partners

Exp:

	Acronym	Organisation	Country	Contact person
Coordinator				
Partner (1)				
Partner (2)				
Partner (3)				
Partner (4)				

A.8 Description of project partners and their role in the project

A9.Financial Plan

Exp:

Partner	Funder	Person-months	Personnel costs, permanent staff	Personnel costs, temporary staff except PHD	Personnel costs, PHD	Consumables	Travel & subsistence	Equipment	Other costs (to be specified in A10)	Overhead	Overhead
(1)											
(2)											
(3)											
(4)											
(5)											
(6)											

A10. Details and scientific justification of the requested resource

ANNEXE (2)

Part B

B1. Project acronym

B2. Project summary suitable for web publishing

B3. Background and „State of the Art“in the field

B4. Description of the project

a) Aim, objectives and hypotheses

b) Scientific description of methods & work plan, including list and description of the work packages, description of deliverables and timetable (with responsible work package/partner and deliverables, optionally in a Gant Chart)

c) Description of novelty in methods or development opportunities

d) Expected results and their impact/application

e) Governance and global organization of the project

f) Dissemination plan and/or exploitation of results

g) Description and definition of potential risk to the implementation and success of the project (e.g. in research methods, farm studies, stakeholder involvement), describe how the chances for success are maximised, and describe your contingency plan

B5. Statement describing how the proposal fits the call topic including identification of the added value/complementarity of the proposed research to previous or ongoing projects

B6. Statement describing how/why the proposal has a clear added value of being carried out on a transnational basis (Mediterranean added value, transnational impact of the proposed project, including added value for participating countries and cross border problems, description of the specific integration of participants in the transnational consortium structure)

B7. Statement describing training opportunities (description of training/exchange activities foreseen within the project, if applicable)

B8. Statement describing the societal and ethical aspects (aspects of the project such as environmental, human or animal welfare, intellectual or cultural development that could cause societal or ethical concerns or contribute to progress in these areas)

B9. References used for the project description

360	RAMSIS	20		Resilience and adaptation strategies of Mediterranean farming systems to shortage and quality of water under uncertainties of global change	water management and farming systems	X	X		X				X							
542	pHbrownrot	21	*	IMPROVEMENT OF PEACH PRODUCTION SYSTEMS AGAINST BROWN ROT	plant protection, peach	X		X	X			X								
369	MEDSCREEN	21	*	Screen-covered agriculture to improve productivity, water use efficiency and sustainability of agricultural systems in dry conditions	water management, greenhouses	X			X			X	X							

