AGRI Innovation summit 2017

MANAGEMENT OF FARMING, FOOD AND FORESTRY SYSTEMS & VALORIZATION OF THE TERRITORY

Agriculture products and food processing

Parallel Thematic Session

MANAGEMENT OF FARMING, FOOD AND FORESTRY SYSTEMS
& VALORIZATION OF THE TERRITORY

Agriculture products and food processing

Organised by

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AGRICULTURE PRODUCTS AND FOOD PROCESSING

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Operational Group:

CompetitiveSouthBerries – Innovative, competitive and sustainable off season small fruits production systems.

CompetitiveSouthBerries - Pequenos frutos competitivos e sustentáveis: técnicas culturais inovadoras para o alargamento da época de produção.

Practical problem

Increase the competitiveness of the small fruit sector in the Southern region through the development and demonstration of innovative production technologies ensuring the sustainability of systems and the enhancement of endogenous genetic resources.

Partners

Type:	Name:
Research/ Teaching	INIAV, I.P. – Instituto Nacional de Investigação Agrária e Veterinária
Agri association	COTHN - Centro Operativo e Tecnológico Hortofrutícola Nacional
Agri enterprise	Beira Baga - Sociedade de Produção e Comercialização Pequenos Frutos, Lda; FirstFruit - Produção e Comercialização, Unipessoal, Lda.; Campina Produção Agrícola, Lda.; Mirtisul - Produção de mirtilos, Lda.

Project

Objectives: Taking advantage of the excellent climatic conditions of the southern regions the objective is to develop innovative production technologies for different berry crops. This will allow the extension of berry production season and obtain fruit for the off season export market at competitive prices.

Expected results: Raspberry - optimization of the long-cane production system for three crops a year;
Blackberry - long-canes with a very early harvest and high yields. Strawberry - new substrate technologies with tray and motte plants;
Blueberry - growth cycle manipulation for an early and late fruit harvest;
Endemic species - establish genotypes of interest based on fruit quality and yield for the export market.

Results so far/first lessons: The project is just starting but with the scientific team knowledge and all growers' partners it was possible to build up a project that will allow innovating and developing the opportunity that this initiative proposes to address. From the meetings already organized it was possible to recognize the bottlenecks of the berry industry and gather the new technologies that will develop it further.

Who will benefit: Results will be disseminated to technicians and berry growers at national level, based on reliable technical results.

Start: September/2017
End: April/2021

Budget: 380.595 €

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AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

Fons Europeu Agrícola de Desenvolupament Rural: Europa inverteix en les zones rurals

Generalitat de Catalunya Departament d'Agricultura, Ramaderia, Pesca i Alimentació

Project funded by Operation 16.01.01 (Cooperation for innovation) of the Rural Developement Program of Catalunya 2014-2020.

Start: 01/11/2015
End: 30/09/2017

Budget: 184.300 €

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Operational Group:

Control of *Monilinia* spp. in stone fruit: use of prediction models and cultural practices

Control de Monilinia spp en fruita de pinyol: utilització de models de predicció i mètodes profilàctics

Practical problem

Brown rot caused by *Monilinia* spp. is the main disease that affects stone fruit. Fruits at harvest may not show symptoms but the infection development usually occurs during postharvest or when reaching consumer. This causes significant production and economic losses for growers and packinghouses.

Partners

Type:	Name:
Producers of stone fruit and packinghouses	ACTEL SCCL;Fruits de Ponent SCCL; Agropecuaria i SC Soses SCCL
Research institute	IRTA

Project

Objectives:

Validate a predictive model to control *Monilinia* spp. in order to minimize the use of fungicides and avoid resistance to active ingredients.

Assess the efficacy of cultural practices to reduce the incidence.

Develop a simple system to determine the risk just after harvest.

Expected results:

This project aims to improve brown rot control in stone fruit using a predictive model, in order to apply treatments only when needed, select the best products for each time (depending also on the existence of resistant strains) and assess the feasibility of introducing cultural practices. In addition, companies will have a method that will reveal the risk of *Monilinia* in lots just after harvest.

Results so far/first lessons:

Results from 2016 were not conclusive as weather was extremely dry. Field works from 2017 are still ongoing. The prediction model include information related to presence of inoculum and weather conditions. It has been designed a viewer to detect the risk of incidence in order to apply treatments. Eliminating the secondary inoculum helped to minimize the incidence of the disease.

Who will benefit:

Fruit growers and packinghouses: they will have new tools to improve the management and control of this disease.

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AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

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Operational Group:

GREENTASTE - A new base for dressings and sauces with high nutritional value.

GREENTASTE - Uma nova base para molhos e temperos de elevado valor nutricional.

Practical problem

Tomato industry is focused on obtaining a single high value product – tomato paste, where only completely red tomato enters the process plant.
The non-use of high volumes of green fruits - ca 112 Mton, left in the fields without further valorization represents huge losses of Energy, Water and Food.

Partners

Type:	Name:
Research/Teaching	Centro de Competências para o Tomate Industria (CCTI); LEAF-Linking Landscape Environment Agriculture and Food; ISA-Instituto Superior de Agronomia; INIAV-Instituto Nacional de Investigação Agrária e Veterinária, I.P.
Agri enterprise	ITALAGRO- Indústria de Transformação de Produtos Alimentares,S.A.; Sociedade Agro-pecuária do Vale da Adega,S.A.; Sociedade Agrícola Ortigão Costa, Lda.; Soluzer – Sociedade Agrícola, Lda.;
Agri association	FRUTO MAIOR - Organização de Produtores Hortofrutícolas, Lda.; Tomaterra Organização de Produtores de Tomate C.R.L.
Other company	Espiralpixel, Lda.; Memória Silvestre, Lda.

Project

Objectives:

To promote rational use of green tomatoes as sources of additional wealth and perspectives for the design of new products potentially with higher value.
To reach zero waste.
To increase knowledge on lactic acid fermentation of these fruits foreseeing high nutritional dressings and sauces.

Expected results:

GREENTASTE is oriented to the business 2 business market, promoting an edible standard from fermented green tomatoes.
Fermentation will bring healthy components to the products, introducing an additional differentiation to the dressing sector.
The project will induce the best combination of tomato varieties, its maturation and bacterial strains to answer operational demands and nutritional value.

Results so far/first lessons:

A few lab tests were performed so far. In this context, some bacterial fermentation with organic tomato juice was tested.
In the tests performed, two lactic acid bacteria strains and two tomato varieties in different stages of maturation were used.
In all cases the fermentation occurred in the juice, in liquid medium.

Who will benefit:

Extra-Income to the tomato producer. Innovation tool to sauces industries.
Healthy/convenient product to market.

Start: January/2017
End: January/2021

Budget: 400.552 €

Contact:Greentaste Consortium
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AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

Start: May/2017
End: April/2020

Budget: 430.122 €

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Operational Group:

iCheese –Cynara Innovation for best Cheese.

iCheese – Cynara inovação para melhor queijo.

Practical problem

In Portugal cheese from ewe's milk is produced using cardoon flower extracts rich in enzymes with different coagulant activity. The valorisation and preservation of these endogenous resources depends on the establishment of procedures to ensure reproducibility and quality of the final product.

Partners

Type:	Name:
Research/ Teaching	Universidade Católica Portuguesa; Instituto Politécnico de Castelo Branco; Universidade de Évora; Instituto Nacional de Investigação Agrária e Veterinária IP; Instituto Politécnico De Viseu; Instituto Politécnico de Beja
Agri association	Ancose - Associação Nacional de Criadores de Ovinos Serra da Estrela
Agri enterprise	Centro de Biotecnologia Agrícola e Agro Alimentar do Alentejo; Cataa - Associação Centro de Apoio Tecnológico Agro-Alimentar De Castelo Branco;
Other company	Sabores e Ambientes Serra Da Estrela, Comercialização De Prod.Trad. Lda

Project

Objectives:

Innovation of products and processes to empower cheese producers using cardoon flowers guaranteeing the sustainable and safe supply of coagulants contributing for the competitiveness of SMEs in the milk-transforming sector. Wide dissemination and demonstration of the results of iCheese Project.

Expected results:

iCheese will establish:

-Vegetable coagulants (MixEcoCyn 1-6) adequate for each DOP region (Serra da Estrela, Beira Baixa, Nisa, Évora, Azeitão, Serpa);

-An innovative formulation with cardoon flowers from different ecotypes (InovEcoCyn), adequate for different milks (ewe, goat, cow and their mixtures);

-Process and packaging of the flowers to comply with food safety and quality guidelines.

Results so far/first lessons:

The institutions collaborating with iCheese have the knowledge on cardoon plants and their enzyme profiles and their role in clotting of different milks (ewes, goat and cow). Experimental cardoon fields are established in Viseu and Queijo da Serra da Estrela producers have been using different cardoon flowers providing the preliminary data for the selection of the appropriate cardoon ecotypes.

Who will benefit:

Traditional cheese manufacturers (MixEcoCyn) Any cheese manufacturer interested in designing new cheeses (InovEcoCyn).

Contact:Marlene M. Tourais Barros
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AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

Start: October/2017
End: May/2020

Budget: 350.000 €

AGRI Innovation summit 2017

Operational Group:

LACTIES - Innovation, Eco-efficiency and safety in micro, small and medium sized dairy industries.

LACTIES Inovação, Eco-Eficiência e Segurança em PMEs do Setor dos Lacticínios.

Practical problem

Diversification of production and production processes, incorporating innovative, sustainable and environmentally friendly technologies, based on energy efficiency, on the use of by-products and endogenous resources, in order to adapt the small firms of the sector to the current market requirements.

Partners

Type:	Name:
Research /Teaching	Instituto Politécnico de Coimbra; Instituto Politécnico de Beja; Universidade Católica Portuguesa; Instituto Superior de Agronomia; Centro de Biotecnologia Agrícola e Agro Alimentar do Alentejo; INIAV - Instituto Nacional de Investigação Agrária e Veterinária IP
Agri enterprise	Lourofood Ida; Queijaria Guilherme; Unipessoal, Ida; Tété ii-Produtos Lácteos Ida; Valinox-Industrias Metalomecânicas,SA; Sabores e Ambientes Serra da Estrela, Comercialização de Produtos tradicionais Lda
Agri Association	Acos-Associação de Agricultores do Sul; Ancose-Associacão Nacional de Criadores de Ovinos Serra da Estrela

Project

Objectives:

To maximize the competitiveness of micro, small and medium size industries of the dairy sector by introducing technological innovation and improving energetic efficiency; To foster the valorisation of endogenous resources by the dairy industries.

Expected results:

Development of innovative dairy products: Ewe's milk and lactose free yoghurt; Whey cheese (Requeijão) with probiotic cultures; Yoghurt/fermented drinks based on liquid whey protein concentrates obtained by ultrafiltration; Cow's whey cheese obtained with whey protein concentrates obtained by UF; Development of two pilot plants for the production of whey cheese with energy recovery.

Results so far/first lessons:

The introduction of novel approaches for the valorisation of cheese whey allows for the obtention of innovative dairy products in micro, small and medium size dairy industries. It is also possible to reduce the energy consumption of whey cheese production process. Several products were already tested at laboratory scale and can be transferred to the industry.

Who will benefit:

Micro, Small and Medium size industrie of the dairy sector.

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AGRICULTURE PRODUCTS AND FOOD PROCESSING

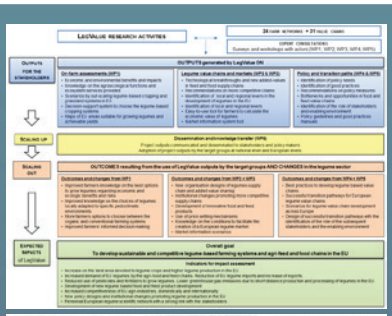
AGRI Innovation summit 2017

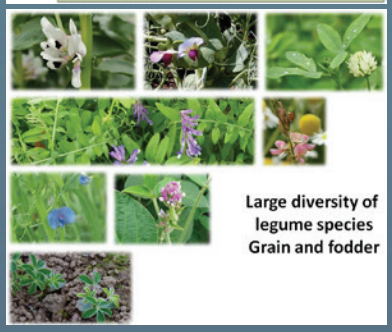
Horizon 2020:

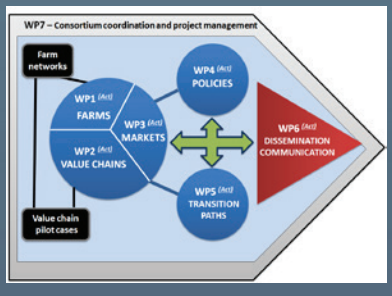
LegValue: Fostering sustainable legume-based farming systems and agri-feed and food chains in the EU

Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement Nº 727672







Start: June/2017
End: May/2021

Budget: 6.000.000 €

Practical problem

Legumes production is not always optimal and the diversity of ecosystem services are often underestimated. There is a need for: organisational design of supply chains and collective rules, a better market information and a consistent policy implementation specifically tailored to legumes.

Partners

Names:

Terres Inovia (FR); Institut de la Recherche Agronomique (FR); Alma mater studiorum (IT); Wageningen Research (NL); Fachhochschule Südwestfalen (DE); PGRO Research Limited (UK); INRA Transfert (FR); Research Institute of Organic Agriculture (CH); Wageningen University (NL); Universität Hamburg (DE); Chambre Régionale d'Agriculture de Normandie (FR); Institut für Lebensmittel- und Umweltforschung eV (DE); VALOREX (FR); AICF Agro Inovação (PT); Instituto Nacional de Investigação Agrária e Veterinária (PT); Terres Univia (FR); SEGES (DK); ADAS (UK); Latvian Rural Advisory and Training Centre (LV); Roskilde Universitet (DK); Association de coordination technique pour l'industrie agroalimentaire (FR); Scuola superiore di studi universitari e di perfezionamento Sant'Anna (IT); Università di Pisa (IT); Lietuvos agrariniu ir misku mokslucentras (LT).

Project

Objectives:

The goal of LegValue is to pave the way to develop sustainable and competitive legume-based farming systems and agri-feed and food chains in the EU. To this end, the project will assess both the economic and environmental benefits for the EU agro industry.

Expected results:

- Decision tool for farmers to choose the optimal legume species and design a new economic calculation tool to assess the economic and environmental benefits of legumes.
- Novel concept on transition management towards sustainability encompassing technology and organisation of the supply chains.
- Innovative policy design and implementation of solutions and tools.

Results so far/first lessons:

The first months have been dedicated to setting-up the partnerships and doing:

a- The description of about 30 existing value chains as case studies to analyse the behaviour of all the actors involved in a legume based supply chain

b- Specify the involvement and the expected outcomes of the 24 farm networks covering a large diversity of legume species

c- Looking after relationship with other H2020 projects and national projects dealing with legumes

d- Starting to collect data and knowledge already available in legumes

Who will benefit:

All actors of the supply chain: from farmers to end users. Extension services, scientists, policy makers.

LEGVALUE

Contact:Frédéric Muel
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AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

ELER
Förderinitiative Ländliche Entwicklung in Thüringen
Europäischer Landwirtschaftsfonds für die Entwicklung des ländlichen Raumes

Start: 01/01/2016
End: 31/12/2018

Budget: 204.200 €

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Operational Group:

MeMoGen-Development of methods for early detection of metabolic disorders and improvement of animal health in dairy cows

Entwicklung eines Verfahrens zur frühen Diagnose von Stoffwechselstörungen bei Milchkühen

Practical problem

Metabolic disorders and their late stage complications (e.g. metritis, mastitis, laminitis) frequently cause premature culling in dairy cows. Early detection of affected animals is one pillar of precision dairy farming, improves animal welfare and ensures economically efficient milk production.

Partners

Type:	Name:
Cooperative Farm	Agrargenossenschaft Niederpöllnitz eG
Animal Disease Fund	Thüringer Tierseuchenkasse
State organisation	Thüringer Landesanstalt für Landwirtschaft
Farmers organisation	Thüringer Verband für Leistungs- und Qualitätsprüfungen in der Tierzucht e.V.

Project

Objectives:

This project aims at identifying a protocol for metabolic monitoring in dairy cows that gathers the aspects of individual fat mobilization and insulin resistance by early parameters. Additionally, it intends to create a data set of milk-infrared spectrometry for further investigation.

Expected results:

The results will allow a further development of metabolic monitoring and its on-farm application. The data set consisting of clinical findings, metabolic parameters and the results of infrared spectrometry may provide a basis for future development of calibration equations for metabolic parameters and its use in future studies focusing on the genetic aspects of metabolic diseases.

Results so far/first lessons:

Results support the hypothesis that energy metabolism ante partum influences transition cow health as well as the performance and the disease incidence during the following lactation. Metabolic parameters such as NEFA may have a potential to predict the risk of several diseases leading to new diagnostic approaches. More data is in need to evaluate the genetic aspects of metabolic disorders.

Who will benefit:

Dairy herd managers and veterinarian will benefit from diagnostic enhancement, the dataset is valuable for researchers.

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AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

Operational Group:

Nature Bioative Food - Optimization of natural bioactive ingredients production from Portuguese traditional fruits and aromatic plants.

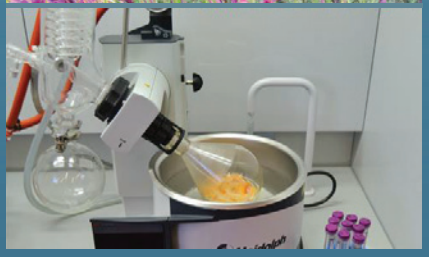
Nature Bioative Food - otimização dos extratos vegetais bioativos produzidos a partir dos frutos tradicionais portugueses e plantas aromáticas.

Practical problem

Absence of natural ingredients on food market from Portuguese endogenous agroforestry resources;
Lack of valorisation of Portuguese endogenous agroproductions and nonconformity fruits - source of bioactive compounds and new flavours profiles.

Partners

Type:	Name:
Research/Teaching	I&Tec-Caps – Innovation & Technology Encapsulation Solutions, Lda; Universidade Católica Portuguesa; Instituto de Biologia Experimental e Tecnológica-IBET
Agri association	Cooperativa Agrícola de Alfândega da Fé CRL; Agritábua -Cooperativa Agrícola do Concelho de Tábua, CRL
Other Assotiation	Associação BLC3 - Campus de Tecnologia e Inovação
Other enterprise	Voz da Natureza, Lda.
Farmers	Frederico Manuel de Oliveira Carvalhão



Project

Objectives:

Obtain bioactive ingredients from endogenous agroforestry resources with healthy benefits and sensorially pleasant;
Evaluate the sensorial attributes and beneficial effects on health of the developed functional concentrates;
Produce new natural food ingredients/additives.

Expected results:

Optimization of natural bioactive ingredients production from Portuguese traditional fruits and aromatic plants;
Creation of innovative natural food products adapted to the food standards - Functional Concentrates;
Conversion of Portuguese endogenous agroforestry resources into products with high added value.

Results so far/first lessons:

Previous results of IBET pointed out that traditional varieties like Bravo de Esmolfe apple and Saco Cherry are powerful antioxidant sources compared with commercial varieties;
Traditional fruits and aromatic plants are a promising raw material for the production of bioactive extracts.

Who will benefit:

The agrofood sector – Final ingredient users'.
The farmers – Application of strategy developed in their productions.

Start: May/2017
End: April/2020

Budget: 353.684 €

Contact: Tânia Ribeiro
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AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

Start: 14/12/2015
End: 31/07/2016

Budget: 13.570 €

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Operational Group:

Optimization of Idiazabal PDO milk collection

Optimización de la recogida de la leche acogida a la DOP Idiazabal

Practical problem

Idiazabal PDO has 285 registered farms that sell approximately 5 million liters of certified milk to companies for cheese production. The size of the herds and the particular characteristics of the area turn transportation costs into a disadvantage that affects negatively throughout the value chain.

Partners

Type:	Name:
Farmers organisation	Latxa Esnea Kooperatiba
Cheese producers	Buruaga Arditegia; Saskagoin; Aldanondo Corporación Alimentaria; Geroari
Dairy research institute	Alvo
Software development company	Opptimiza
PDO Regulatory Board	Idiazabal PDO

Project

Objectives:

Reduction of the economic and environmental costs of milk collection.
Strengthen a cooperation and cooperation culture between operators, which will lead to an increase in sectoral cohesion to join efforts in common benefit objectives.

Expected results:

Reduction of the economic and environmental costs of milk collection, through the development of a pilot test.

Results so far/first lessons:

Results obtained were:
After the development of a computer application, data from pilot test was collected allowing to conclude that the obtained savings ranged from 25% to 40%. The theoretical emission savings could reach up to 100,1 Tn CO2 eq per year. Subsequently, results obtained with pilot case brought a real saving of 20% of km and costs, somewhat lower than the theoretical results previously foreseen, but obviously still of high interest.

Who will benefit:

Milk and cheese producers.

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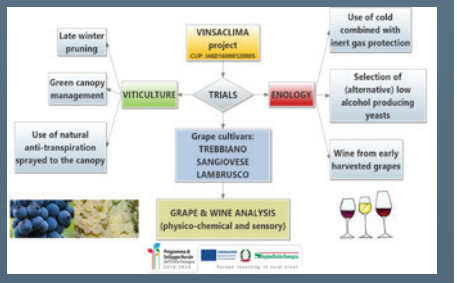
AGRICULTURE PRODUCTS AND FOOD PROCESSING

Supported by:

Programma di Sviluppo Rurale dell'Emilia-Romagna 2014-2020 — Europe investing in rural areas



Start: 01/07/2016
End: 30/06/2019

Budget: 347.870 €

AGRI Innovation summit 2017

Operational Group:

Evaluations of innovative strategies for adaptation in vineyard and cellar to the climate change – VINSACLIMA

Valutazione di innovative strategie di adattamento in vigneto e in cantina al mutato contesto climatico - VINSACLIMA

Practical problem

Climate change causes stress in vine plants, thus (i) altering grape ripening profiles, so wine style and quality, (ii) increasing water demand and irrigation timing, (iii) raising irregularity in yields, (iv) affecting soil fertility and (v) modifying plant pathogens timing and severity.

Partners

Type:	Name:
Extension and advisory centers	CRPV; ASTRA Innovazione; Sviluppo
Wineries	Cevico; Cantine Riunite & CIV; Cantina Sociale di San Martino in Rio; Az. Agric. Gianni Pezzi; Az. Agric.Mora William
Research institutions	Università degli Studi di Bologna; Università Cattolica del Sacro Cuore; Università degli Studi di Modena; Reggio Emilia

Project

Objectives:

Transfer to grape and wine producers effective solutions to mitigate the impact of climate change with the following aims: (i) improve the quality of grape and wine, (ii) set aside the release of pollutants in water/soil, and (iii) strengthen the natural resistance of *Vitis* plant to stress.

Expected results:

Adoption of innovative viticulture and winemaking protocols tailored to meet the specific needs of the producers involved in the project.
Improved capacity of partners staff regarding the use of new protocols and parameters for monitoring the quality of grapes and wines.
Improved quality of grapes and wines according to their typology in different areas of ER Region.

Results so far/first lessons:

First lessons were:
Climate change in viticulture areas of Romagna in the period 1961–2015 showed increased number of days with maximum temperature exceeding 30°C, which can induce plant stress.
At local level it is important to monitor short-term climate cycles.
Long-term adaptation strategy should consider the natural resilience of *Vitis vinifera* plant.

Who will benefit:

Cooperative and private wineries, winegrowers/farmers/oenologists, consumers.

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www.aislisbon2017.com