

AIS 2017 Poster sessions

INNOVATION PROJECTS

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RESOURCE USE (ADAPTATION AND MITIGATION)

Resource efficiency / water and energy / circular economy / fertilization

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RESOURCE USE (Adaptation and Mitigation)

Resource efficiency
Water and energy
Circular economy
Fertilization





Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 690142



Start: June/2016
End: May/2019

Budget: 7.650.050 €

Horizon 2020:

AgroCycle: Sustainable techno-economic solutions for the agricultural value chain

Practical problem

Europe has an agricultural waste problem: it generates 700 million tonnes of waste annually. There is an urgent need & huge opportunity to address the efficient use of agricultural waste, co-products and by-products (AWCB), seeking to build sustainable value chains in the farming & processing sectors.

Partners

Names:

NUID University College Dublin (IE); Universiteit Gent (BE); Harper Adams University (UK); Fraunhofer IVV (DE); Consiglio Nazionale delle Ricerche (IT); CERTH (GR); sdewes (HR); Hellenic Agricultural Organization-"DEMETER" (GR); CREA Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (IT); NNFCC (UK); China Agricultural University (CN); Nanjing Tech University (CN); IRIS (ES); TOMSA DESTIL (ES); EXERGY (UK); Axeb Biotech (ES); Agrii; RESET Carbon (HK); Manor Farm; NUI Maynooth University (IE); EUBIA (BE); CEMA European Agricultural Machinery (BE); CIBE (BE); EKO Kvarner (HR); ITACyL(ES); IFA Innovation for Agriculture (UK)

Project

Objectives:

To achieve a 10% increase in the recycling and valorisation of agricultural waste by 2020, the main objective of the AGROCYCLE project is to further develop, demonstrate & validate novel processes, practices & products for the sustainable use of agricultural waste, co-products and by-products (AWCB).

Expected results:

Agrocycle will improve knowledge on waste streams and pilot a key number of waste valorisation pathways. AgroCycle will develop sustainable green business opportunities and jobs surrounding the recovery, reuse and valorisation of agricultural waste, co-products and by-products (AWCB) leading to measurable environmental, societal and economic benefits for Europe and worldwide.

Results so far/first lessons:

The project has been running for only one third its total timeframe. The major outputs are scheduled for the second half of the project. Results are expected to emerge next year, in particular those focusing on the quantification of waste stream feedstocks across Europe and China, and on the valorisation options associated with these. Follow the project here: <http://www.agrocycle.eu/>

Who will benefit:

Producers, suppliers, buyers, manufacturers, processing facilities, retail outlets, as well as related service providers.



Contact: Shane Ward
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Cooperation supported by FCT, I.P.:

BIORG4WASTEWATERVAL+ - Bioorganic novel approaches for food processing waste water treatment and valorisation: Lupanine case study

Practical Problem

Food processing industry uses a large volume of fresh water to deliver safe food for humanity, which is obtained from public water providers or ground and spring water sources. The resulting brackish wastewater is often disposed of in public sewers or treated using different suboptimal solutions.

Partners

Type:

Research/ Teaching

Name:

Instituto de Investigação do Medicamento, Associação da Faculdade de Farmácia para a Investigação e Desenvolvimento, Faculdade de Farmácia, Universidade de Lisboa, (iMed/FARM-ID/FF/UL), Portugal; Institute for Bioengineering and Biosciences, Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento, Instituto Superior Técnico, Universidade de Lisboa, (iBB/IST-ID/IST/UL), Portugal; Politecnico di Milano (POLIMI), Italy; Basque Centre for Macromolecular Design & Engineering, POLYMAT (BCMDE-POLYMAT), Spain; Cyprus University of Technology (CUT), Cyprus; University of Vienna (UV), Austria

Other company

A Tremoceira Estrela da Piedade Lda, (TEP), Portugal

Project

Objectives:

New separation processes will be developed based on novel membrane processes able of purifying the water for in-situ recycling. A far reaching concept is suggested in which alkaloids are isolated and converted into valuable building blocks, compensating for water detoxification costs.

Expected results:

Development of new separation processes able to detoxify wastewaters enriched in alkaloids providing fresh water for food processing companies and isolation of alkaloids. Chemical and bioconversion of alkaloids into molecules suitable for further valorisation. Maximize impact of the current project within the lupin beans detoxification industry.

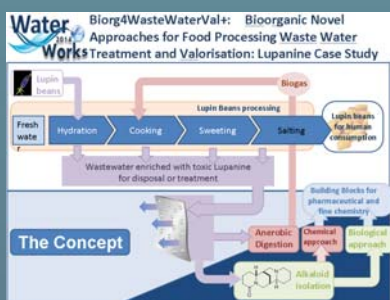
Results so far/first lessons:

Efficient process for the isolation of the alkaloid lupanine from wastewater of lupin beans processing based on membrane processes. Resolution of racemic lupanine to each enantiomer and chemical transformation to the alkaloid sparteine as a valuable chiral ligand to fine chemical industry. Successfully production of biogas from the organic components present in the wastewater.

Who will benefit:

Lupin food processing industries and other industries that generates potential valuable organic molecules.

Supported by:



The Consortium

Carlos Afonso
(iMed/FARM-ID, Faculty of Pharmacy, Universidade de Lisboa)

Federico Ferreira
(BBIST-IDJUL, Instituto for Bioengineering and Biosciences, Instituto Superior Técnico, Universidade de Lisboa)

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Michalis Koutinas (Cyprus University of Technology)

Dina Bastos (A Tremoceira Estrela da Piedade Lda)

Nuno Maulide (University of Vienna)

PROJECT MOTIVATION

The Case study: Lupin bean production

- The global production of lupin beans is ca 100 000 tons (2009)
- Lupin beans are rich in toxic alkaloids, which need to be removed before being used as human or animal food. Biogas from sprouts, 14 m³ fresh water / ton of seed beans

Part of a larger problem

- The food processing industry uses a large volume of fresh water to deliver safe food
- Examples in m³ of water/ton of food: 14.77 (green beans), 13.5-20.5 (sugar beet), 14-22 (pasta and porridge)

Industry organization and needs

- A network of small/medium factories size
- Need of available technological solutions of quick implementation at the companies' site
- Competitive wastewater treatment with in-site recycling

APPROACH TAKEN AND INNOVATION SOURCE

Novel business models with 3rd parties able to: water detoxification in-situ techs; synthesize and commercialize the added value products.

A compact modular water detoxification process:

- First microfluidic membrane stage to retain carbon rich fraction for energy production
- Second nanofiltration membrane stage to:
 - re-use 80% of the water to recycle in food processing
 - deliver a highly concentrated solution of alkaloids

Improved sustainability and downstream separations:

- Biogas production for energy sustainability and waste minimization
- New DNA-aptamer and MIPs for alkaloids separations
- New downstream resolution of alkaloids

New routes for process sustainability and alkaloid valorisation:

- Alkaloid resistant microorganisms for biogas production, alkaline mineralization or conversion
- Non degradative bioconversion of alkaloid into new structural motifs for organic synthesis transformations
- Chemical transformation into added value compounds

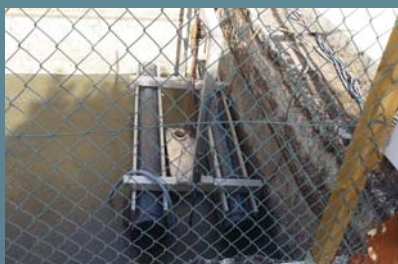
Start: May/2016
End: April/2019

Budget: 827.855 €

Contact: Carlos A. M. Afonso
E-mail: carlosafonso@ff.ulisboa.pt



Supported by:



Start: 01/10/2015
End: 30/09/2017

Budget: 270.967 €

Operational Group:

Development of a concentration system to manage the pig slurry in order to obtain two phases: concentrated and diluted

Projecte pel desenvolupament d'un concentrador de purins amb l'obtenció de dades en continu del contingut de nitrogen total, fòsfor i matèria orgànica de les dues fases obtingudes

Practical problem

The most common action to manage pig slurries in Catalonia is their application on soil. However, to avoid the proliferation of NVZ, their application is limited up to 170 kgN/ha. This increases the distances of transportation of slurries, composed mainly by water, and thus, the management costs.

Partners

Type:

Name:

Farmers organisations

Cooperativa Plana de Vic
Federació de cooperatives agràries de Catalunya

Private company

Grup Solucions Manresa, SLUP

Research Center

Centre Tecnològic BETA, Universitat de Vic-Universitat Central de Catalunya

Project

Objectives:

The main objective of the project is to develop a cost-effective technology to concentrate the nutrients of the pig slurry in a liquid phase while obtaining a second clarified/low nutrient concentration liquid phase.

Expected results:

The physical characteristics of the concentrated phase (liquid state) will permit the use of one single vehicle to catch, transport and apply to soil the high nutrient concentration effluent. It will allow the reduction of costs of long distance transportation and land disposal (as fertilizer) of the concentrated effluent while the diluted will be applied to agricultural soils near the farms.

Results so far/first lessons:

An industrial prototype has been designed, built and operated during the project. The design incorporates a system to have a real-time nitrogen content monitoring in both phases. The physico-chemical analyses have shown the concentration capacity of the system. With this equipment, it was possible to reduce up to 70% of the initial volume of slurry.

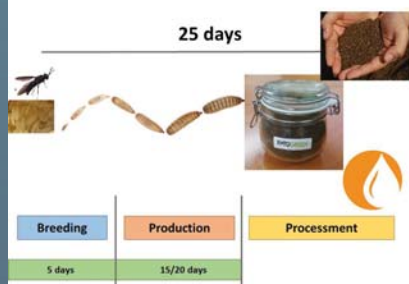
Who will benefit:

The technology designed will have impact in pig farms located in areas with N excess in the soils.

Contact: Sílvia Martín
E-mail: smartin@planadevic.cat



Supported by:



Start: September/2016
End: December/2019

Budget: 750.000 €

Colaborative Business R&TD Projects:

EntoValor - Insects as an opportunity in organic residue valorisation

EntoValor - Insetos como uma oportunidade na valorização de resíduos

Practical problem

The Circular Economy is the basis of this project. We will develop the knowledge and processes that will allow organic residues to be reintroduced in the value chain as a nutrient source. The linkage that allows this connection is the Black Soldier Fly larvae (*Hermetia illucens*).

Partners

Type:

Research/Teaching
Agri enterprise
Consultant

Name:

INIAV-Instituto Nacional de Investigação Agrária e Veterinária IP
Ingredient Odyssey; AgroMaisPlus; Rações Zêzere
Consulai

Project

Objectives:

Reduce food waste;
Reintroduce the nutrients in the value chain;
Contribute to the establishment of quality and biosafety standards for secondary raw materials originated by waste recovery;
Present new products and services originated by waste valorization and insect meal production.

Expected results:

Development of the best production conditions and processment methods that will allow the industrialization of insect rearing and organic residue valorization;
Creation of novel protein sources, such as insect meal and insect protein extract and new soil fertilizers;
Introduction of new sustainable and competitive products and services in the international market.

Results so far/first lessons:

We have already developed the insect rearing methods that allow the sustainable and economic large scale production.

So far we have determined that the soil fertilizer has the required properties that will allow its use in agriculture and that the use of live larvae in chicken feed may allow the increase of animal welfare and growth.

Who will benefit:

Insect producers and processors;
Animal feed producers;
Farmers.

Contact: Daniel Murta
E-mail: daniel.murta@entogreen.com



Supported by:



Start: 01/08/2016
End: 01/08/2018

Budget: 670.000 €

Operational Group:

Increase of N-efficiency in arable crop rotations

N-Effizienzsteigerung im Ackerbau

Practical problem

N-efficiency is often low in the most common crop rotation (winter oilseed rape/winter wheat/winter barley) in Schleswig-Holstein, Germany. Field trials to improve the N-efficiency with innovative crop rotations and computer-model-based N fertilisation recommendations are still missing.

Partners

Type:

Farmers

Name:

Sönke Huesmann; Ralf Hartmann Paulsen; Karl-Volkert Meyer; Thies Burmeister; Kai Kühmann

Agricultural consultants

Joachim Hülsen; Ulrich Henne

Farmers organisations

Chamber of agriculture; Landwirtschaftskammer Schleswig-Holstein; Bauernverband

Research institutes

Christian-Albrechts-Universität zu Kiel; Institut für Pflanzenbau und Pflanzenzüchtung

Project

Objectives:

The aim of the innovation project is to contribute to the reduction of nutrient losses from agriculture. The focus of the project is to optimise the influence of crop rotation on N-transfer between crops and the use of model-based adapted N fertilization recommendations.

Expected results:

Practical testing, at different locations, of different crop rotations which lead to an optimised crop rotation with higher N-efficiency (due to reduction of N-loss). Adaptation and testing of a computer-model-based fertilization recommendation which leads to lower N-inputs on farms.

Results so far/first lessons:

Second year of field trials shows practical problems in some crop rotations like late sowing date. Higher N-efficiency is possible in some crop rotations, but depends on the location. Computer-model-based fertilisation recommendations can reduce the total amount of N used by farmers.

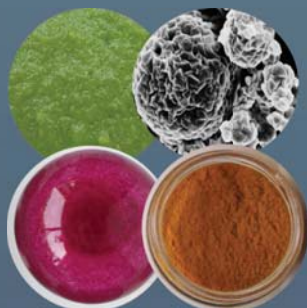
Who will benefit:

Farmers, consumers and the environment in general.

Contact: Helge Stephan
E-mail: hstephan@lksh.de



Supported by:



Start: October/2017
End: September/2020

Budget: 371.394 €

Operational Group:

ProEnergy - New food products and bioenergy from fruits of low commercial value and agroindustrial wastes.

ProEnergy - Novos produtos alimentares e bioenergia a partir de frutos de baixo valor comercial e resíduos agroindustriais.

Practical problem

Post-harvest handling generates a large amount of by products (10 %). Minimal processing of fruits and vegetables produces high volumes of wastes (40%). Materials although very perishable have high nutritional and functional value. Traditional approaches are cost requiring and not effective.

Partners

Type:

Research /Teaching

Agri Enterprise

Agri Association

Name:

ISA - Instituto Superior de Agronomia; FCUL - Faculdade de Ciências da Universidade de Lisboa; INIAV – Inst. Nacional de Investigação Agrária e Veterinária

CAMPOTEC - Conservação e Transformação de Hortofrutícolas, SA; GRANFER - Produtores de Fruta, CRL; FRUBAÇA - Cooperativa de Hortofruticultores, Crl; COOPERFRUTAS - Cooperativa de Produtores de Frutas e Produtos Hortícolas de Alcobaça, CRL

APMA - Associação de Produtores de Maça de Alcobaça

Project

Objectives:

To promote a sustainable approach to support fruits & vegetables industries, taking into account nexus "byproduct-food-energy". The main objectives are:
-To implement new technologies for obtaining novel products and ingredients;
-To produce bioenergy through the optimization of anaerobic co-digestion.

Expected results:

Implementation of the "circular economy" concept; quantification & classification from the by-products and waste of industrial units; functional foods formulation and stabilization; microencapsulated functional ingredients; bioenergy production and its use for thermal treatments; bio fertilizers production

Results so far/first lessons:

Results from previous partners' projects:
-Prototypes of fruit pulps (apple and pear base) and vegetables with high bioactivity, validated on laboratory scale;
-The ISA team also has expertise in the production of bioenergy from industrial wastes. National Patent No. 103676 In Bulletin INPI 38/2008.

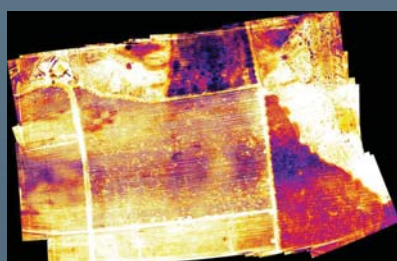
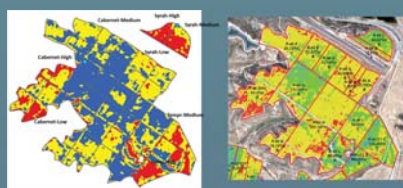
Who will benefit:

People - Consumers focused on health and wellness
Profit -The industrial units, which core business is post-harvest handling and fruits and vegetables processing.
Planet

Contact: Margarida Moldão
Email: mmoldao@isa.ulisboa.pt



Supported by:



Start: 01/02/2016
End: 30/09/2017

Budget: 203.000 €

Operational Group:

Profitability of new technology application to enhance irrigation efficiency in a conventional and organic vineyard

Rendibilitat de l'aplicació de noves tecnologies per a la consecució d'un reg amb màxim d'eficiència hídrica en una finca pilot de 100 ha de vinya ecològica i convencional

Practical problem

Grapegrowers need tools to manage the spatial variability of the vineyards in order to obtain high yields and berry composition. Irrigation is probably the most important instrument to achieve it. However, the key is to know, for each variety, how much water should be applied, when and where.

Partners

Type:

Name:

Research Institute

Institute of Agri food Research and Technology (IRTA)

Winery

Codorniu winery

State organisation

Raimat Irrigation District

Project

Objectives:

Improve irrigation water use efficiency in a commercial organic vineyard to enhance water productivity (kg/m³ water) and improve berry composition. To develop and implement a Variable Rate Irrigation (VRI) system integrating remote sensing, crop simulation models and vine physiology.

Expected results:

One of the main goals of organic farmers is to reduce the vineyard inputs. Thus, by applying this VRI system, they can know the exact amount of water to be applied in each irrigation sector considering the variety and phenology. This VRI system will increase water savings and have an impact on vegetative vine growth, and therefore reducing labour costs.

Results so far/first lessons:

With precision irrigation, we saved 25% of water in comparison with previous years. Also, yield productivity and berry composition improved. The analysis within-field spatial variability (using spectral vegetation indices obtained with satellite multispectral images) showed a significant reduction in the within-irrigation sector vegetative growth from 2015 (when VRI was not applied) to 2016.

Who will benefit:

This technology will benefit winegrowers by increasing water-use efficiency, and improving yield and berry composition.

Contact: Joaquim Bellvert Rios
E-mail: joaquin.bellvert@irta.es



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 691402



Start: February/2016
End: July/2018

Budget: 2.101.711 €

Horizon 2020:

RichWater - Market introduction of combined wastewater treatment and reuse technology in agriculture.

Practical problem

Water scarcity is hindering economic prospects in the agricultural sector. Concerns on the need of reusing wastewater and nutrients are growing, nevertheless there is a lack of adapted technologies to provide effective control of nutrients supply and thus optimize the use of water and fertilizers.

Partners

Names:

BIOAZUL(ES), ISITEC(DE), PESSL(AT), TTZ-Bremerhaven (DE), CSIC-IHSM (ES), Soil Moisture Sense (UK)

Project

Objectives:

- Demonstration of an innovative and competitive technology for reusing wastewater in agriculture
- Integration of water treatment and irrigation in a single system
- Tailor-made treatment according to crop demands and high rates of water and nutrient recycling
- Agri-assessment to guarantee safe irrigation

Expected results:

- Final marketable system for wastewater reuse consisting of 4 modules: wastewater treatment, mixing unit, fertigation and control and monitoring. RichWater 150m³/ day plant is running in South Spain for irrigation of sub-tropical crops and tomatoes. Safety concerns like pathogens removal are fully addressed, with guarantees for crop consumption. RichWater tailor-made treatment shows high level of nitrates
- Demonstrated savings of water and fertilizers for practitioners and farmers - Low O&M requirements: low energy consumption (ca. 1.5 kwh/m³) and highly automation
- Demonstrated safe and optimized production of irrigated tomatoes, mangos and avocados

Results so far/first lessons:

RichWater 150m³/ day plant is running in South Spain for irrigation of sub-tropical crops and tomatoes. Safety concerns like pathogens removal are fully addressed, with guarantees for crop consumption. RichWater tailor-made treatment shows high level of nitrates, phosphates and potassium and therefore high rates of nutrient recycling. The system is adapted to work with high conductivity waters. <http://richwater.eu/>

Who will benefit:

Farmers and irrigation communities, wastewater treatment operators, public administrations and civil society (consumers)


RichWater

Contact: Antonia Lorenzo
E-mail: alorenzo@bioazul.com



Supported by:



Start: October/2017
End: December/2021

Budget: 437.385 €

Operational Group:

SustentOlive - Improvement of irrigation and fertilization practices at olive farms in Trás-os-Montes for its sustainability.

SustentOlive - Melhoria das práticas de rega e fertilização do olival nas explorações olivícolas em Trás-os-Montes para a sustentabilidade do olival.

Practical problem

Although the importance of irrigation to increase productivity, it reduces unproductive time and mitigates the effect of alternate bearing. In this region, there is a lack of information of irrigation needs and the response of regional cultivars to deficit strategies to ensure rational use of water.

Partners

Type:

Research/ Teaching

Agri enterprise

Agri association

Name:

UTAD - Universidade de Trás os Montes e Alto Douro; Instituto Politécnico de Bragança

Luís Miguel Ferreira Afonso; Sá Morais Castro Lda; Manuel Fernando Cunha Vaz Pinto; Almira dos Anjos Lopes Robalo Cordeiro; Casa de Vilarelhos - Sociedade Agrícola Lda

Appitad- Associação de Produtores em Protecção Integrada de Trás-os-Montes; Associação de Beneficiários do Vale da Vilarça.

Project

Objectives:

Improve irrigation practices for a more efficient water management, by adopting different deficit irrigation strategies and by improving the performance of irrigation systems that maximize irrigation efficiency and optimize water productivity, ensuring the Eco - Sustainability of olive cultivation.

Expected results:

They will allow assessing the response of different Cvs. to diverse strategies of deficit irrigation, based either on the efficiency of water use, increasing productivity and olive oil quality. This, will allow an advance on economic yield of olive groves as a result of a cut in irrigation costs, increasing the competitiveness of the regional olive sector, both at national and international level.

Results so far/first lessons:

In cv. Cobrançosa, irrigation increased oil yield up to 0.35 kg (dw) m⁻³ of water transpired. Sustained deficit irrigation (SDI) with 30% of 100%ETc (FI) increased oil yield to more than double of rainfed (RF) and yield is reduced only 25% in relation to FI, saving 60% of applied water. Sensory attributes, pungent and bitter, are more noticeable in olive oils from RF and SDI.

Who will benefit:

Farmers, technicians from farmers organizations, researchers and agents involved in the olive sector decision.

Contact: Anabela Afonso F. da Silva
E-mail: anaaf@utad.pt



Supported by:



Start: October/2017
End: September/2020

Budget: 418.466 €

Operational Group:

Waste2Value - Valuation of agricultural by-products for animal feed, biodegradable plastics and treatment of animal effluents.

Waste2Value - Integração da valorização de subprodutos da atividade agrícola com a produção de alimentos compostos para animais, plásticos biodegradáveis e tratamento de efluentes animais.

Practical problem

There is a need to reduce antibiotics in animal feed, as well as a strategy for mitigation of by-products in the agricultural sector in Portugal.

Waste2Value creates alternatives and novel products answering both problems by adding value and minimizing the use of antibiotics and resources

Partners

Type:

Research/ Teaching
Agri Association
LAG Association
Agri Enterprise

Other Company

Name:

Instituto Politécnico de Viseu; Universidade de Aveiro
ANCOSE - A. N. de Criadores de Ovinos da Serra da Estrela
ADDLAP – Assoc. de Desenvolvimento Dão, Lafões e Alto Paiva
Ervital - Plantas Aromáticas e Medicinais,Lda; Indumape – Industrialização de Fruta,S.A.; Ovargado,S.A.; Vasco Pinto & Agostinho Sousa,Lda – Agricultura Biológica
Silvex - Indústria de Plásticos e Papéis, S.A.

Project

Objectives:

Employ agricultural by-products to:

- obtain value-added compounds and apply them as feed ingredients;
- reduce/eliminate antibiotics in feed;
- use biopolymeric materials for agricultural biodegradable plastic films;
- obtain carbonaceous materials for treating animal effluents.

Expected results:

- Characterization of plant by-products and animal effluents;
- Holistic separation of by-products according to nutritional, phytobiotic and prebiotic profile;
- Valuable compounds incorporated into animal feed formulations; reduction/elimination of antibiotics;
- Preparation of biopolymers for biodegradable films for agricultural applications;
- Treatment of animal effluents.

Results so far/first lessons:

Farmers and agro-industries are willing to contribute to the valuation of their by-products and waste but often do not have the required know-how or experience. In some cases the awareness of the value of waste needs to be sharpened. Collecting by-products and waste from agriculture activity needs planning and a suitable infrastructure, e.g. to enable small producers to design new applications.

Who will benefit:

Horticultural producers, including agro-industry, livestock sector and animal feed industry

Contact:Dulcineia Wessel
E-mail:ferdulcineia@esav.ipv.pt



RESOURCE USE (Adaptation and Mitigation)

Agro-environment and climate change





Supported by:



Cooperation supported by FCT, I.P.:

Bioinvent Generic Bio-inventory of functional soil microbial diversity across management and climate gradients

Practical problem

BIOINVENT aims for in depth comprehension, at a Pan-European scale, of the interdependent effects of management intensity and climatic distinctions on soil microbial dynamics and their consequences for ecosystem services. BIOINVENT follows a concerted 2-step approach: Research and Outreach Streams.

Partners

Type:

Name:

Research/ Teaching

Franck Rasche (University of Hohenheim); Andreas Luscher (Agroscope, Institute for Sustainability Sciences ISS); Linda-Maria Martensson (Swedish University of Agricultural Sciences); Cristina Cruz (Universidade de Lisboa)

Other company

Sabine Weizenegger (Regionalentwicklung Oberallgaeu); Luís Silva (Fundação Gaspar Frutuoso)

Project

Objectives:

Generate understanding on soil biodiversity and its critical functioning in distinct grassland ecosystems;
To develop a generic inventory toolbox to monitor future trends of belowground soil microbial diversity;
To identify threats and benefits of current grassland management in Europe.

Expected results:

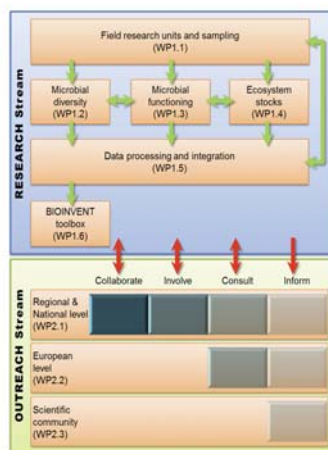
A knowledge baseline for legislative frameworks that identifies agronomic and ecological drivers of soil biodiversity threats that impact the maintenance of essential ecosystem services in grasslands;
Recognise environmental and biodiversity issues, and to develop strategies of productive and sustainable grasslands that meet consumer demands and environmental protection requirements

Results so far/first lessons:

Soil samples were collected and common protocols developed. A big effort is being performed in order to adapt state of the art techniques to relate soil biodiversity with soil function and ecosystem services.

Who will benefit:

Validated results will be disseminated in an adjusted manner to: NGO - collaborate, farmers - involve, deciders -inform.



Start: February/2017
End: January/2020

Budget: 938.075 €

Contact: Cristina Cruz
E-mail: ccruz@fc.ul.pt



Supported by:



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

Budget: 200.000 €

Operational Group:

Evaluation of carbon footprint in relation to highly sustainable viticulture systems

Valutazione dell'impronta di carbonio in relazione a strategie viticole ad alta sostenibilità

Practical problem

The agricultural production is one of main sources of greenhouse gases, however there's little information on energy use and CO2 emission on fruit systems. This condition deeply affects the vineyards, especially those located in Italy and Emilia-Romagna Region.

Partners

Type:

Name:

Research Institutes

CRPV Soc. Coop.; Astra - Innovazione e Sviluppo; Alma Mater Studiorum, Università di Bologna; Università Cattolica del Sacro Cuore

Farms

Soc. Agr. Manzoni; Soc. Agr. Podere della Rosa; Az. Agr. Ovi Dina

Wineries associations

Gruppo CEVICO; CAVIRO

Wine-growers and wineries association

Cantine Riunite & CIV

Wine-growers association

Cantina Sociale di San Martino in Rio

Project

Objectives:

The project aims at getting a deeper insight on carbon footprint in vineyards in relation to highly sustainable agricultural systems, that are able to reduce carbon emission and enhance carbon sequestration.

Expected results:

The aim is to demonstrate to growers who adopt or want to adopt organic or biodynamic production method, the benefits of innovative agronomic techniques in terms of carbon sequestration. These techniques consist in management of soil (cultivation along row of self-seeding legumes and between row of a mixture of herbaceous species) and canopy (topping techniques, late defoliation and use of kaolin).

Results so far/first lessons:

Self-seeding legumes and mixture of herbaceous species have shown a good settlement capacity. The first reliefs indicate an improvement of plants microclimate, an increase of biodiversity and a positive carbon footprint budget in thesis where cover crops are used.

Who will benefit:

Winegrowers.

Contact: Giovanni Nigro
E-mail: gnigro@crpv.it



Supported by:



Operational Group:

GOEfluentes - Livestock effluents: strategic approach towards agronomic and energetic valorization of flows in the farming activity.

GOEfluentes - Efluentes de pecuária: abordagem estratégica à valorização agronómica/energética dos fluxos gerados na atividade agropecuária.

Practical problem

Livestock production is concentrated in certain regions, some without enough area for landspreading valorization of effluents. Therefore, in order to be competitive and comply with legal requirements, the sector should promote a circular economy, pursuing new alternatives for effluents management.

Partners

Type:

Name:

Research/Teaching

INIAV - Instituto Nacional de Investigação Agrária e Veterinária, I.P.; Instituto Nacional de Investigação Agrária e Veterinária IP.; Instituto Superior de Agronomia; Universidade de Trás os Montes e Alto Douro; Universidade de Évora

Agri association

Associação Portuguesa de Criadores da Raça Frísia; Associação Portuguesa dos Industriais de Alimentos Compostos para Animais; Federação Portuguesa das Associações de Suinicultores

Agri enterprise

CAMPOAVES; VALORGADO; ALIRAÇÕES; Leal & Soares,SA; Ingredient Odyssey

Consultant

TTerra-Engenharia e Ambiente, Lda.

Project

Objectives:

Valorize livestock effluents as a resource, focusing on the production and integrated management of the different flows generated; Optimize effluents use as secondary raw materials, recovering energy and nutrients, improving farm nutrient balances and promoting sustainable management.

Expected results:

A roadmap for effluents management, including technology portfolio, linked to farm characteristics and regional constraints; Support decision making on centralized/decentralized solutions; Contribute to sustainable livestock intensification and landscape planning, to face climate change and resources scarcity.

Results so far/first lessons:

Recognition of the need for: Integration of livestock production data at local/regional/national scale; Landscape planning for livestock production towards environmental sustainability, sector competitiveness and rural development.

Who will benefit:

The beneficiaries will be the animal producers and farmers, its sustainability and the image and brand of the sector.

Start: September/2017
End: August/2020

Budget: 509.980 €





Supported by:



Start: January/2018
End: December/2022

Budget: 234.208 €

Operational Group:

GO SOLO – Development of an expedited low-cost soil organic matter evaluation method for sown biodiverse pastures.

GO SOLO: Promoção de práticas agrícolas conservadoras do solo através da demonstração, expedita e a baixo custo, do seu impacto na matéria orgânica.

Practical problem

Soil organic carbon (SOC) is a key variable for pasture management and in carbon sequestration projects. However, it requires an expedited surveying method capable of cost-effectively covering large areas and assessing spatial heterogeneity for differentiated management recommendations.

Partners

Type:

Name:

Other company

Terraprima – Serviços Ambientais, Sociedade Unipessoal Lda.; Fundação Eugénio de Almeida

Research/Teaching

Universidade de Évora; Instituto Nacional de Investigação Agrária e Veterinária IP

Agri Association

Confederação dos Agricultores de Portugal

Agri Enterprise

Terraprima Sociedade Agrícola Lda.; ZEA - Sociedade Agrícola Unipessoal, Lda.; Tapada dos Números, Sociedade Agrícola, Lda.; Sociedade Agrícola Herdade dos Padres, SA; Herdade da Machoqueira do Grou – Cooperativa Complementar de Produção Agrícola; Herdade do Azinhal

Project

Objectives:

The goal of GO SOLO is to an expedited and low-cost method for SOC mapping and assessment of carbon sequestration in sown biodiverse pastures. The method will use visible and near-infrared spectroscopy (VNIR) using field sensors and satellite data.

Expected results:

High-resolution SOC maps for 7 initial farms during 5 years, including detailed geospatial analysis;
Assessment of the effects of pasture management in SOC accumulation;
Forecast of carbon sequestration in the initial farms and an extrapolation of the data for potential new pasture areas;
Normalized method for VNIR assessment of SOC.

Results so far/first lessons:

The first activities of GO SOLO will be the division of farms into homogenous plots using soil electrical conductivity and environmental variables. In each plot, SOC will be measured using conventional sampling and laboratorial analysis. These measurements will be used to calibrate the VNIR methods. Farmers will be accompanied by technical advisors to identify management practices in each plot.

Who will benefit:

Farmers will be able to optimize management for SOC increase; policy-makers will better assess carbon sequestration.

Contact: Ricardo Teixeira
E-mail: ricardo.teixeira@terrappima.pt



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 696391



Start: April/2016
End: March/2019

Budget: 2.230.218 €

Horizon 2020:

HNV-LINK: High Nature Value Farming: Learning, Innovation and Knowledge

Practical problem

Abandonment or degradation, intensification of production, and socio-economic decline are long-standing threats for extensive and nature-friendly farming systems. The challenge is to increase their socio-economic viability while maintaining natural values and ecosystem services provided to the society.

Partners

Names:

Centre International de Hautes Etudes Agronomiques Meditterneennes (FR); The European Forum on Nature Conservayion and Pastoralism (UK); Universidade de Évora (PT); Lokalna Akcijska Grupa LAG 5 (HR); Universitatea de Stiinte Agricole si Medicina Veterinaria Cluj Napoca (RO); Society for Territorial and Environmental Prosperity (BG); Lansstyrelsen i Vasta Gotalands Lan (SE); Applications des Sciences de L'Action (FR); Institut of Technology Sligo - ITS (IE); Panepistimio Thessalias (GR); Helsingin Yliopisto (FI); Conservatoire des Espaces Naturels du Languedoc Roussillon Association (FR); Fundacion Entretantos (ES).

Project

Objectives:

Create a community of practice and knowledge by linking 10 areas throughout the EU where HNV farming systems are prevalent. These "learning areas" are used to evaluate innovation examples and gaps relevant to HNV systems. Innovation types include technical, commercial, social, institutional, and of policy.

Expected results:

- Inventory of grassroots innovations in each learning area;
- an "Innovation Fair" to foster peer learning;
- a set of educational materials to expose educators and students in agricultural studies, rural development and conservation alike to HNV concepts, challenges and opportunities;
- an interactive Atlas of Innovations feasible within HNV farming areas;
- research papers and presentations.

Results so far/first lessons:

- Review of innovations benefiting HNV farming systems, farmers and communities;
- Ten learning areas established with local actors;
- Baseline assessment of challenges and most promising evolutions in those 10 learning areas.
- Website: <http://www.hnmlink.eu/>

Who will benefit:

Farmers, communities and ecosystems in high-nature farmland areas.



Contact: Maria Teresa Pinto Correia
E-mail: mtpc@uevora.pt



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727368



Start: January/2017
End: December/2019

Budget: 1.999.999 €

Horizon 2020:

Inno4Grass: Shared Innovation Space for Sustainable Productivity of Grasslands in Europe

Practical problem

Collaboration between farmers, advisors and scientists is insufficient. Latest results of research are not sufficiently put into the practice and practitioners are not sufficiently aware of knowledge of relevance to their field. Information about novelties at farm level is not disseminated effectively.

Partners

Names:

Grünlandzentrum e.V. (DE); TEAGASC (IE); Wageningen UR (NL); RHEA Research Centre (BE); French Livestock Institute (FR); French Chambers of Agriculture (FR); Chamber of Agriculture Lower Saxony (DE); Institute of Grassland Science, University Göttingen (DE); Institut National de la Recherche Agronomique (FR); Tr@me srl (BE); Association Wallonne de l'Elevage asbl (BE); CAH Vilement University of Applied Sciences; Swedish University of Agricultural Sciences (SE); Northern Dutch Farmers Association (NL); Consiglio Nazionale delle Ricerche (IT); Poznan University of Life Sciences Department of Grassland and Natural Landscape Sciences (PL); Wielkopolska Chamber of Agriculture (PL); Svenska Vallföreningen (SE); Associazione Italiana Allevatori (IT); Centro di Sperimentazione Agraria e Forestale Laimburg (IT)

Project

Objectives:

The overall objective of the project is to bridge the gap between practice and science communities to ensure the implementation of innovative systems on productive grasslands, to increase profitability of European grassland farms and to preserve environmental values.

Expected results:

I4G will set up a Facilitator Agents network, which will capture and synthesize innovative farm novelties. It will upgrade this capital via multi-actor approaches and science dialogue and will boost cross-border collaboration and dissemination approaches which will convey innovations to practice. It will deliver training sessions on this new grassland knowledge and will mobilise key actors.

Results so far/first lessons:

The project started only recently and has not delivered results yet. However first analysis seems to show that innovation types and needs vary significantly with national and regional conditions. Transferability might become an important issue requiring special emphasis. At least 100 practice abstracts and 104 video clips describing innovative practices will be provided.

Project website: <http://inno4grass.eu>

Who will benefit:

Farmers, extension services and research community for improving applied research.



Contact: Grünlandzentrum
Niedersachsen/Bremen
E-mail: arno.krause@gruenlandzentrum.de



PRODER:

Low Carbon Wine – Sustainable wine producing techniques emitting less GHG (Alentejo Region)

Vinho de Baixo Carbono – Desenvolvimento de um novo processo de gestão vinícola na produção de vinho mais sustentável e com menores emissões de GEE no Alentejo



Supported by:



Practical problem

Evermore consumers pay attention to the sustainability of the products they buy, as such there is a demand for sustainable products like the low carbon labelled ones. Although there's a certifying entity, there is no production of low carbon wine in Portugal nor in Europe certified by a third party.

Partners

Type:

Consultant
Farmer
Research/Teaching

Name:

Consulai, Lda
Herdade da Mingorra
Instituto Superior de Agronomia

Project

Objectives:

Identify and implementation of new cultural practices for grape production with low carbon. Case study of the impact of new cultural practices regarding the reference system in terms of GHG emissions. Creation of a low carbon wine as well as a label. Switch from bulk wine to bottled low carbon wine.

Expected results:

Study about the adaptation of new cultural practices with the intent of maximizing carbon sequestration in the vineyard. Development of a low carbon wine that could be certified by a third party. Substantial reduction of emission of GHG in the low carbon wine when compared with a conventional mad one. Replacement of 5% of bulk wine for bottled low carbon one

Results so far/first lessons:

The new label – *Imagem* – was created and certificated by a third party – DNV – with the PAS2050, certifying it as a low carbon wine. In comparison with a conventional made wine, the *Imagem* generated less 10% of GHG with in a total of 0,930 and 1,035 kgCO₂eq/UF for *Imagem* and a conventional wine, respectively.

Who will benefit:

Consumers and farmers who are interested in a quality wine made with ecological responsibility.



Start: February/ 2013
End: December/ 2016

Budget: 210 000 €



Supported by:



PROGRAMA DE
DESENVOLVIMENTO
RURAL 2014- 2020



Practical problem

The agricultural sector contributes to the emission of greenhouse gases (GHG) and to major changes in the climate system. At the same time, the projected variations in climatic elements are of utmost relevance for rainfed agriculture, since greatly influence the growth and productivity of plants.

Partners

Type:

Agri enterprise

Agri association

Farmer

Name:

ACUSHLA, SA

Centro de Gestão da Empresa Agrícola Vale do Tua; Centro de Gestão de Empresas Agrícolas Vimiosense

Herdeiros de Manuel Alberto Ferraz de Sousa Ataíde Pavão; Almira dos Anjos Lopes Robalo Cordeiro; Lúcia Maria Lage Gomes de Sá; Maria dos Anjos Rosa Rodrigues; Manuel Domingos Carvalho

Project

Objectives:

Introduction of new practices that promote the performance of olive rainfed orchards under a changing environment. A mitigation approach (higher CO₂ sequestration and lower emissions of GHG) and adaptation measures at soil and canopy levels are undertaken at the same time.

Expected results:

Significant positive results are expected in the agronomic, environmental and socio-economic fields, through: - The publication of a "Manual of Best Practices" on mitigation and adaptation measures to climate change; - The dissemination, among farmers, associations, technicians, academics and civil society, of the new solutions by publications, seminars, conferences, WEB page and the focus group.

Results so far/first lessons:

Dissemination of some practices to farmers, associations and academics through seminars and conferences.

Who will benefit:

The project partners, farmers, technicians, academics of higher and vocational education and the civil society.

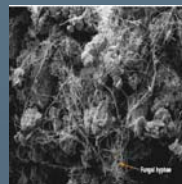
Start: January/2017
End: December/2020

Budget: 420.883 €

Operational Group:

New management practices in rainfed olive orchards: strategies for mitigation and adaptation to climate change.

Novas práticas em olivais de sequeiro: estratégias de mitigação e adaptação às alterações climáticas.



Contact: Carlos Correia
E-mail: ccorreia@utad.pt



Supported by:



Start: 01/12/2016
End: 30/11/2018

Budget: 33.340 €

Operational Group:

VleesVEEPAS - Emission reduction through good management in beef cattle

Emissiebeperking door goede praktijk bedrijfsvoering vleesvee - VleesVEEPAS

Practical problem

To renew their permission, a number of cattle farms need to prove that they will substantially decrease their level of ammonia emission. In Flanders, only a few approved techniques for beef cattle farms exist. Thus, there is a need for practical and cost-efficient new techniques.

Partners

Type:	Name:
Innovation and extension institute	Inagro
Innovation support service	Innovatiesteunpunt
Research institute	ILVO
Beef cattle farmers	Groene kring Vleesveehouders; Vleesveehouders studiekring BWB stamboek; Other beef cattle farmers

Project

Objectives:	Find feasible solutions regarding manure and bedding management and determine their potential reduction capacities with the project partners. Discussion moments with farmers about the problem. Demonstration of techniques. Dissemination of the results. Formulation of recommendations for future research.
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Expected results:	Development of new practical and cost-efficient techniques for beef cattle farming. Improved management techniques put in practice in beef cattle farms. Lower ammonia emissions from beef cattle farms.
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Results so far/first lessons:	New options for other possible techniques are being explored. Results are being disseminated.
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Who will benefit:	Beef cattle farmers.
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RESOURCE USE (Adaptation and Mitigation)

Genetic resources

Climate change adaptation





Supported by:



Start: 01/12/2016
End: 30/11/2019

Budget: 376.475 €

Operational Group:

Broadening and improving biodiversity for a more competitive and sustainable viticulture in the Colli Piacentini area

Ampliamento e valorizzazione della biodiversità per una gestione competitiva e sostenibile della viticoltura piacentina in un contesto di mutate condizioni climatiche e sociali

Practical

problem

Local wine industry is strongly affected by climate change and vineyards frequently undergo multiple summer stresses.

Croatina shows poor basal bud fruitfulness and, consequently, low suitability to full vineyard mechanization.

In addition, a more sustainable use of pesticides is needed.

Partners

Type:

Research institute

Name:

Università Cattolica del Sacro Cuore

SMEs

HORTA s.r.l.; Vinidea s.r.l.

Farms

Mossi Aziende Agricole Vitivinicole srl Società Agricola; Cantina Sociale di Vicobarone Società Cooperativa Agricola; Azienda Vitivinicola Villa Rosa di Illari Andrea e C. SS Società Agricola; Az. Vitivinicola "I Salici" di Gazzola Claudio; Az. Agr. Il Poggiarello S.S. Società Agricola; Az. Agr. La Pagliara s.s.; Tenuta Borri Azienda Agricola di Andrea Pradelli; Az. Agr. Currado Malaspina

Project

Objectives:

Valorization of local biotypes able to retain high acidity under high heat loads.

Evaluation of new drought-tolerant rootstocks.

Find a solution to the alternate bearing pattern of the native cv. Croatina.

Achieve a significant reduction in pesticide use.

Expected results:

The project is expected to:

i) introduce new genotypes to face challenges imposed by climate change; ii) promote full mechanization in vineyards; iii) implement new strategies for plant protection trying to compromise the needs for vine health and secured crop, reduction in pesticides and environmental impact; iv) promote the culture of "working in a vineyard" targeting young generations and immigrants.

Results so far/first lessons:

Identification of some local varieties achieving optimal sugar concentration while retaining high acidity under the hot 2017 conditions.

Ortrugo and Malvasia di Candia aromatica cvs from vineyards established at ≥ 300 m a.s.l. achieved technological maturity with 10 days delay as compared to traditional areas.

Optimal yield and grape composition performance of cv Ervi as compared to cv Croatina.

Who will benefit:

Growers, local wine chain, nurseries, SMEs providing agricultural services, technicians and consultants.

Contact: Matteo Gatti
E-mail: matteo.gatti@unicatt.it



Supported by:



Start: January/2018
End: December/2020

Budget: 300.000 €

Operational Group:

ConVIGNA – Maize and cowpea intercrop.

ConVIGNA – Consociação de milho com feijão-frade como uma técnica sustentável de adaptação da produção deste cereal às alterações climáticas em Portugal.

Practical problem

There are several cultivars of cowpea (*Vigna unguiculata*) in Portugal which can be intercropped with maize with various potential benefits. However, there is little information on this intercrop in Portugal or in similar contexts.

Partners

Type:

Research /Teaching

Agri Association

Agri enterprise

Name:

INIAV - Instituto Nacional de Investigação Agrária e Veterinária, I.P.

ANSEME - Associação Nacional dos Produtores e Comerciantes de Sementes

Living Seeds Sementes Vivas; Living Farms Quintas Vivas; Curvas da Primavera; Sativa Rheinau AG

Project

Objectives:

To study portuguese cowpea cultivars intercropped with maize (for human consumption), grown organically under different production conditions.

Expected results:

Identify the most promising cowpea cultivars to intercrop with maize in different regions of Portugal (North, Center and South);
Monitor indicators such as yield, LER, drought tolerance and nutritional quality, using Bioversity International's descriptors;
Develop a "best practices" manual for the maize-cowpea intercrop.

Results so far/ first lessons:

Trials will only start in Spring of 2018.
The existence of three trial sites managed by different entities adds potential for more insights, but also requires additional coordination efforts.

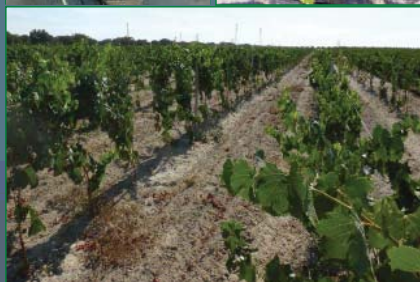
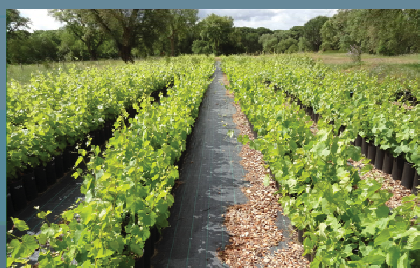
Who will benefit:

Maize and cowpea growers;
Researchers of maize-legume intercropping;
Organic seed producers;
Society in general due to: lesser input use, better soil conservation and higher biodiversity conservation.

Contact: Paulo Martinho
E-mail: paulo.martinho@ls-sv.eu



Supported by:



Start: February/2009
Endless

Budget: PORVID

Innovation Project:

Genetic intra-varietal evaluation and conservation and Selection of Ancient Grapevine Varieties.

Quantificar a variabilidade genética intravarietal, seleccionar e conservar as variedades antigas da videira.

Practical problem

Ancient varieties contain high intra-varietal genetic diversity concerning the most important traits. The intra-varietal diversity is essential to face climate changes and new demands of the vine and wine sector, thus, its conservation and evaluation is a priority for the sector sustainability.

Partners

Type:

Agri Association

Research /Teaching

Agri enterprise

Other company

Name:

Portuguese Association for Grapevine Diversity (PORVID); AVIPE- Associação de Viticultores do Concelho de Palmela; ADVID-Associação Desenvolvimento da Viticultura Duriense; ATEVA-Associação Técnica dos Viticultores do Alentejo

ISA-Instituto Superior de Agronomia; UTAD-Universidade de Trás-os-Montes e Alto Douro; INIAV-Instituto Nacional de Investigação Agrária e Veterinária IP; IVDP-Instituto dos Vinhos do Douro e Porto IP

Aveleda, S.A.; Esporão S.A.; Sogrape Vinhos, S.A.; J. Portugal Ramos Vinhos SA; José Maria da Fonseca Vinhos, S.A.; Casa Ermelinda Freitas; Real Companhia Velha; Cooperativa Agrícola de Santo Isidro de Pegões; Cooperativa Agrícola de Reguengos de Monsaraz; Adega Cooperativa de Faveiros; Herdade da Malhadinha Nova; Symington Family Estates

Vitisges-Sociedade de Consultoria, Investimentos e Serviços Agrícolas. Fundação Maria Rosa

Project

Objectives:

Conservation and evaluation of intra-varietal genetic diversity of the all Portuguese autochthonous varieties in a dedicated experimental farm for grapevine conservation. Carrying out selection with high genetic and economic gains.

Providing to nurseries and, consequently, to all wine and vine sector, selected material with high agronomic and technological performance.

Development of new methodological tools for grapevine conservation and selection.

Expected results:

Conservation of 50000 genotypes from more than 250 grapevine varieties. Selection in 100 varieties, with prediction of genetic gains for the more economically important traits.

Multiplication of selected material of 100 varieties to plant new vineyards.

New methodological developments for grapevine conservation, evaluation and selection.

Results so far/first lessons:

Development of a new and efficient methodology for grapevine conservation and selection, based on quantitative genetics and statistical theory.

Conservation of 30000 genotypes of about 200 varieties.

Selected material from 60 varieties with high genetic and economic gains.

Establishment of more than 500 ha for multiplication of selected materials, which are the main source of plants for the new vineyards.

Who will benefit:

All vine and wine companies. Society in general.

Contact: Elsa Gonçalves
E-mail: porvid@isa.ulisboa.pt



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727230



Start: June/2017
End: May/2021

Budget: 8.997.295 €

Horizon 2020:

LIVESEED – Boosting organic seed and plant breeding across Europe

Practical problem

Organic farmers currently use only few organic seeds as there is a lack of cultivars adapted to organic agriculture. Seeds and breeding companies have to overcome many obstacles for producing organic seed. This has negative effects on the productivity of organic farming.

Partners

Names:

International Federation Of Organic Agriculture Movements European Union Regional Group (Se); Forschungsinstitut Fur Biologischen Landbau Stiftung (Ch); Diktyo Gia Tin Viopikilotita Kai Tin Oikologia Sti Georgia (Gr); Osterreichische Agentur Fur Gesundheit Und Ernährungssicherheit GmbH (At); Borgen Anders (Dk); Eidgenossisches Departement Fuer Wirtschaft, Bildung Und Forschung (Ch); Agrosursu Un Ekonomikas Instituts (Lv); Bingenheimer Saatgut Ag (De); Stichting Bionext (Nl); Fondatsiya Za Biologichno Zemedelie Bioselena (Bg); Bundesverband Naturkost Naturwaren Ev (De); Consiglio Per La Ricerca E Sperimentazione In Agricoltura (It); Stichting Wageningen Research (Nl); Feldsaaten Freudenberger GmbH & Co. Kommanditgesellschaft (De); Forschungsinstitut Fur Biologischen Landbau Deutschland Ev (De); Institut National De La Recherche Agronomique (Fr); Instituto Politecnico De Coimbra (Pt) · Institut Technique De L Agriculture Biologique (Fr); Instytut Uprawy Nawożenia I Gleboznawstwa, Państwowy Instytut Badawczy (Pl); Living Seeds Sementes Vivas, Sa (Pt); Louis Bolk Instituut (Nl); Magyar Tudományos Akadémia Agrártudományi Kutatóközpont (Hu); Ökologiai Mezőgazdasági Kutatóintézet Kőszasznu Nonprofit Kft (Hu); Progressive Farming Trust Ltd Lbg (Uk); Rete Semi Rurali (It); Sativa Rheinau Ag (Ch); Sociedad Espanola De Agricultura Ecológica (Es); Landbrug & Fodevarer F.M.B.A.(Dk); Institutul National De Cercetare-Dezvoltare Agricolă Fundulea (Ro); Union Bio Semences (Fr); Universidade De Evora (Pt); Università Politecnica Delle Marche (It); Universität Kassel (De); Vitalis Biologische Zaden B.V.(Nl); Universitat Politecnica De Valencia (Es).

Project

Objectives:

The project will help to increase the competitiveness of the organic seed and plant breeding sector across Europe, encourage greater use of organic seeds by farmers, and develop innovative breeding and seed health approaches suited for organic farming.

Expected results:

The research covers five main crop categories: legumes, vegetables, fruit trees, cereals and fodder crops in different cropping systems and climatic zones across Europe. LIVESEED will provide guidelines for cultivar testing and new strategies for seed health. It will also investigate socio-economic aspects related to the use and production of organic seed and their interaction with EU regulation.

Results so far/first lessons:

The project has just started but interest in the project is already broad and many seed companies, certifiers, organic associations have confirmed their interest and participation throughout the project. Results will be announced on the project website www.liveseed.eu, once available.

Who will benefit:

The whole organic sector especially farmers, seed companies and breeding initiatives as well as national authorities.

Contact: Bram Moeskops
E-mail: bram.moeskops@ifoam-eu.org



Supported by:



Start: January / 2014
End: December/ 2017

Budget: 600.000 €

PRODER:

LUSARROZ - Breeding new portuguese rice varieties

Lusarroz – Novas variedades de arroz português

Practical problem

The Portuguese are Europe's biggest rice-eaters, outpacing Spaniards and Italians. There was a lack of locally bred rice varieties: 1) well adapted to Portuguese soil and climatic conditions and 2) with appropriate carolino rice type quality, resulting in the need to import rice seed.

Partners

Type

Name

Research

Instituto Nacional de Investigação Agrária e Veterinária

Agri association

COTARROZ – Centro Operativo e Tecnológico do Arroz

Farmer organization

BENAGRO - Cooperativa Agrícola de Benavente

Farmer organization

APARROZ - Agrupamento de Produtores de Arroz do Vale do Sado Lda.

Project

Objectives:

Create new varieties of rice in Portugal.
Make available to farmers, rice varieties adapted to the soil and climatic conditions of producing regions.
Provide the industry with a product with differentiated quality, as the true carolino rice with the necessary features for the Portuguese cuisine.

Expected results:

Registration of a minimum of 2 new portuguese rice varieties
Reducing production costs for farmers. Adding value to production by differentiating in quality. Allowing rice breeding program sustainability, through seed royalties.

Results so far/first lessons:

The project enabled to create a network of multi-local adaptation trials within the scope of the rice breeding program. At the beginning of 2017, the first portuguese varieties were registered on the catalogue of varieties, after 30 years of lack of new portuguese entries.

Who will benefit:

Farmers (seeds with lower cost, adapted varieties); national rice breeding program; Portuguese rice sector and consumer

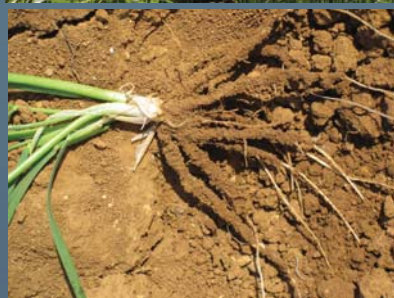


Contact: Ana Sofia Almeida
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Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727247



Start: May/2017
End: April/2022

Budget: 7.192.148 €

Horizon 2020:

SolACE - Solutions for improving Agroecosystem and Crop Efficiency for water and nutrient use

Practical problem

European agriculture is challenged by the need to produce more crops with fewer inputs of fertilizers, especially nitrogen (N) and phosphorus (P), under conditions of reduced or more variable water availability. Water limitation will affect nutrient availability and acquisition in general.

Partners

Names:

Institut National de la Recherche Agronomique (FR) ; Ait Austrian Institute of Technology GmbH (AT) ; Consiglio Per la Ricerca E Sperimentazione In Agricoltura (IT); Forschungsinstitut für Biologischen Landbau Stiftung (CH); The James Hutton Institute (UK); Kobenhavns Universitet (DK); Sabanci Universitesi (TR); Sveriges Lantbruksuniversitet (SE); Universite Catholique de Louvain (BE); Universidade de Evora (PT); Universitaet Hohenheim (DE); University of Newcastle Upon Tyne (UK); Universidad Politecnica de Madrid (ES); Eidgenossisches Departement fuer Wirtschaft, Bildung Und Forschung (CH); Arvalis Institut du Vegetal (FR); Con.Cer. Societa' Cooperativa Agricola (IT); De Ceuster Meststoffen (BE); European Conservation Agriculture Federation (BE); Inra Transfert S.A. (FR); Linking Environment And Farming Lbg (UK); Okologiai Mezogazdasagi Kutatointezet Kozhasznu Nonprofit Kft (HU); Ontwikkelingsmaatschappij Hetidee (NL); Sp Sourcon Padena GmbH (DE); Syngenta France Sas (FR); Vogt Wolfgang (DE)

Project

Objectives:

SolACE's overarching goal is to help European agriculture face the challenge to deal with more frequent combined limitations of water and nutrients in the coming decades. It will design novel crop genotypes and agroecosystem management innovations to improve water and nutrient use efficiency.

Expected results:

- New crop varieties and agronomical innovations to cope with combined water and nutrient stresses;
- a better understanding of below-ground responses to water and nutrient limitations;
- tools for the training of farmers and farm advisors on the importance of below- and above-ground processes and traits;
- below-ground traits introduced as a novel concept for breeding to breeders.

Results so far/first lessons:

As SolACE started only in May 2017, no results are available yet. Progress can be followed on the website: <http://www.solace-eu.net/>

Who will benefit:

Farmers, farm advisors, agri-business industry, breeders, NGOs, policy makers, scientific community, the general public.



Contact: Philippe Hinsinger
E-mail: philippe.hinsinger@inra.fr



Supported by:



Start: January/2012
End: August/2020

Budget: 374 874 €

PRODER

Strawberry tree - Conversion of a wild plant into a profitable fruit tree species

O Medronho – Conversão da planta silvestre numa espécie fruteira rentável

Practical problem

Strawberry tree (*Arbutus unedo*), a Mediterranean species, known by its drought tolerance and regeneration after forest fires, presented the following main problems linked to the lack of:

- 1) high-quality plant material;
- 2) knowledge of the best cultural practices and
- 3) knowledge of new methods for fruit valorization and transformation.

Partners

Type:

Research/Teaching
Research
Research/Teaching
Agri enterprise
Agri enterprise
Other Company
Public/Local Authority

Name:

Instituto Politécnico de Coimbra /ESAC
INIAV/Instituto Nacional de Investigação Agrária e Veterinária
Faculdade de Ciências e Tecnologia da Univ. de Coimbra
Greenclon, LDA
LEND DA BEIRA, Unipessoal LDA
TIAGO ALEXANDRE CRISTÓVÃO
Direção Regional de Agricultura e Pescas do Centro

Project

Objectives:

The main goals were:

- 1) the propagation of selected adult plants for fruit production;
- 2) the mycorrhization of selected plants for edible mushrooms production;
- 3) the establishment of cultural technique for orchards;
- 4) the development of new products and a guide to monitor the "Medronheira" production.

Expected results:

Main expected results:

- 1) the propagation of selected adult plants for fruit production by micropropagation, followed by the establishment of field trials;
- 2) the establishment of a protocol for plant mycorrhization, to obtain a value-added co-product (edible mushrooms);
- 3) the optimization of orchard management systems;
- 4) the improvement of efficiency and quality of the final products.

Results so far/first Lessons:

Main results:

- 1) plants were selected, micropropagated and 2 clonal trials were established;
- 2) fruit production/quality was evaluated: in a field trial (5 years old) clonal plants produced 8.9 more than seedlings;
- 3) mycorrhizal plants with *Lactarius deliciosus* were established *in vitro*;
- 4) a fertilization trial was established and monitored; 5) new products and a guide for fruit transformation were developed; 6) the results were disseminated (technical/scientific articles, workshops, particularly, with forestry and agricultural producers).

Who will benefit:

Forestry/agricultural producers, their associations, sectors linked and also the scientific community

Contact: Patrícia Figueiredo
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Supported by:



Start: October / 2011
End: March/ 2015

Budget: 185 038 €

PRODER:

To select the animals genetically more suitable for the production of quality milk, by determining the profile of caseins, isolated from milk

Seleção de Animais da Raça Serrana de acordo com o seu perfil de Caseínas

Practical problem

The aim of our work was to know the distribution of different kind of genes responsible for casein alpha s1 production. Different genes are responsible for different kind and amount of casein production and casein is determinant for cheese coagulation and its properties.

Partners

Type

Research/Teaching
Association

Name

Instituto Politécnico de Bragança - Escola Superior Agrária
ANCRAS - Associação Nacional de Criadores de Cabras da Raça Serrana
LEICRAS Cooperativa de Produtores de Leite da Raça Serrana

Project

Objectives:

To know what kind of casein genes exists in the region, for selection purposes
To know the properties of milk/genes, for cheese purposes

Expected results:

To know the frequency of genes, in females and males, responsible for each kind of casein alpha S1 (A, B or E) associated with high or low performance of milk coagulation. Perform some trials in cheese production to evaluate the rennet properties and its ability for high quality cheese production

Results so far/first lessons:

The milk, and blood samples in males showed a frequency of 77% of gene E (casein alpha S1), associated with medium performance for renneting. 20% of the samples showed gene B and only one female exhibit the A gene, both associated with high performance for the renneting. In conclusion the frequency of these genes in the flocks may not be the ideal for milk/cheese production..

Who will benefit:

All the farmers producing serrana milk, farmers specialized in genetic resources and cheese producers

Contact: Alvaro Mendonça
E-mail: alvaro.mendonca1@hotmail.com



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 679796



Start: March/2017
End: February/2020

Budget: EUR 5.671.945 €

HORIZON 2020 PROJECT

TOMGEM - A holistic multi-actor approach for towards the design of new tomato varieties and management practices to improve yield and quality in the face of climate change

Practical problem

Climate change calls for designing new strategies for growing crops under harsh conditions. TomGEM addresses yield stability in high temperature conditions with the aim to produce or yield superior genotypes that are better adapted to high temperature conditions.

Partners

Names:

Institut National Polytechnique de Toulouse (FR); John Innes Centre (UK); Max-Planck- Gesellschaft Zur Forderung Der Wissenschaften Ev (DE); Royal Holloway and Bedford New College (UK); Agencia Estatal Consejo Superior de Investigaciones Cientificas (ES); Universita degli Studi di Napoli Federico II (IT); Asian Vegetable Research and Development Center (TW); Universidad de Buenos Aires (AR); Institut National de la Recherche Agronomique (FR); Maritsa Vegetable Crops Research Institute (BG); Alma Seges Societa Cooperativa (IT); Enza Zaden Centro de Investigacion Societate Limitada (ES); Biotecgen SRL (IT); Fundacion Cajamar de la Comunidad Valenciana (ES); European Research and Project Office GMBH (DE); National Taiwan University (TW); Rougeline (FR); Norfolk Plant Sciences Limited (UK)

Project

Objectives:

- Select superior tomato genotypes.
- Identify genetic variations associated with heat tolerance of fruit yield.
- Set up optimal growing conditions.
- Design innovative breeding and management strategies for a broad range of geographical conditions.

Expected results:

- New improved varieties and management strategies:
- Evaluation of a tomato germplasm pool including heat tolerant wild relatives.
 - Identification of most suitable genotypes for hot climates.
 - New knowledge on plant-environment interactions and suitable combinations.
 - of genotypes, breeding and management practices.
 - Novel breeding strategies transferred to the breeding sector.

Results so far/first lessons:

A collection of tomato germplasm was phenotyped in different geographical locations (Spain, Italy, Bulgaria and Argentina) in greenhouse and open field. A phenotyping database has been generated. Highly performing genotypes are being grown in different locations for genetic characterization to uncover/capture genes and loci responsible for heat tolerance/sensitivity.
Project website: <http://tomgem.eu/>

Who will benefit:

Farmers, breeders and consumers.



Contact: Prof. Mondher Bouzayen
E-mail: bouzayen@ensat.fr



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 634476



Start: April/2015
End: March/2019

Budget: 3.395.987 €

Horizon 2020:

TREASURE: Diversity of local pig breeds and production systems for high quality traditional products and sustainable pork chains

Practical problem

Despite a revived interest for the local (indigenous) pig breeds, their preservation often depends on public subsidies. The best conservational strategy is to make the breed self-sustaining, which can be best achieved through its sustainable economic exploitation.

Partners

Names:

Kmetijski Institut Slovenije - Agricultural Institute of Slovenia (SI); Univerza V Ljubljani (SI); Kmetijsko Gozdarska Zbornica Slovenije, Kmetijsko Gozdarski Zavod Novo Mesto (SI); Ifip-Institut du Porc Association (FR); Institut National de la Recherche Agronomique (FR); Baeuerliche Erzeugergemeinschaft Schwabisch Hall Wv (DE); Sveuciliste u Zagrebu Agronomski Fakultet (HR); Sveuciliste Josipa Jurja Strossmayera u Osijeku Poljoprivredni Fakultet u Osijeku (HR); Agris Sardegna - Agenzia per la Ricerca in Agricoltura (IT); Associazione Nazionale Allevatori Suini (IT); Università Degli Studi di Firenze (IT); Alma Mater Studiorum-Università di Bologna (IT); Stazione Sperimentale per L'industria Delle Conserve Alimentari (IT); Lietuvos Sveikatos Mokslo Universitetas (LT); Instituto Politecnico de Viana de Castelo (PT); Universidade de Evora (PT); Institut Za Stocarstvo Beograd-Zemun (RS); Faculty Of Agriculture - University Of Belgrade (RS); Instituto Nacional de Investigacion y Tecnologia Agraria y Alimentaria (ES); Agencia Estatal Consejo Superior De Investigaciones Cientificas (ES); Centre de Recerca en Economia i Desenvolupament Agroalimentari-Upc-Irta (ES); Centro de Investigaciones Cientificas y Tecnologicas de Extremadura (ES); Institut de Recerca i Tecnologia Agroalimentaries (ES); Asociacion Espanola de Criadores de Cerdo Iberico (ES).

Project

Objectives:

Enhance the knowledge, skills and competences necessary to develop and create sustainable pork chains based on European local pig genetic resources which answer consumer demands for quality and healthiness of pork products, societal demands for animal welfare, environment and rural development.

Expected results:

Characterisation of local pig breeds at phenotypic, genomic and functional level, assessing their productivity, environmental impact, nutritional requirements, use of locally available feeding resources, quality and healthiness of pork products from these breeds including innovative traditional products, their socio-economic relevance and market potential of their products.

Results so far/first lessons:

- genetic material of 20 local pig breeds & DNA isolated
- productive traits collected & analysed with review of > 300 data sources
- 15 experiments on 12 breeds (nutritional requirements, local feeding resources, innovative practices)
- common toolbox for product quality evaluation
- studies with consumers in 6 countries (preferences, willingness to pay, sensory acceptability of products)

<https://treasure.kis.si/>

Who will benefit:

Farmers (associations) esp. of untapped local pig breeds which are at start-up stage.



Contact: Marjeta Čandek-Potokar
E-mail: meta.candek-potokar@kis.si

RESOURCE USE (Adaptation and Mitigation)

Plant protection Animal health and welfare





Supported by:



Start: April/2017
End: March/2021

Budget: 472.990 €

Operational Group:

+PrevCRP - Development of integrated strategies for the prevention of pine pitch canker.

+PrevCRP - Desenvolvimento de estratégias integradas para prevenção do Cancro-resinoso-do-pinheiro.

Practical problem

Fusarium circinatum infects several pine species at different stages of maturity, leading to: resinous cankers on woody structures; flowers and cones mortality; seedlings mortality. Its prevention is mandatory to avoid the spreading of infected seeds and seedlings through their movement

Partners

Type:

Research /Teaching

Agri Association

Agri enterprise

Name:

Instituto da Conservação da Natureza e das Florestas IP; Direção-Geral de Alimentação e Veterinária; Instituto Nacional de Investigação Agrária e Veterinária IP.; Instituto Superior de Agronomia; Instituto Pedro Nunes; Universidade de Trás-os-Montes e Alto Douro.

Centro PINUS; Associação de Produtores Florestais do Vale do Sado; Associação de Produtores Florestais do Concelho de Coruche e Limitrofes.

Viveiros do Furadouro Unipessoal Lda; Pombalverde - Produção e Comercialização de Plantas, Lda; Germiplanta- Viveiros de Plantas, Lda.; Florgénese - Produtos e Serviços para a Agricultura e Floresta, Lda; Biochem Iberica – Químicos agrícolas e industriais, Lda.

Project

Objectives:

Assess the disinfection methods' efficacy at eliminating the fungus from seeds, substrates, containers and irrigation water, as well as their impact on seeds germination and seedlings quality, to apply the best treatments at nurseries; monitor seedlings in the field during plantation's first year.

Expected results:

To establish new preventive measures, based on the disinfection methods applied at the forest plant production level, ensuring the good quality and health status of seedlings, avoiding the negative effects of *F. circinatum* presence in host species and the negative economic impact that may result. Implementation of the recommended methods in a real context integrated in the "technical itinerary".

Results so far/first lessons:

Selection of disinfectants with potential use on the production factors (seeds, substrates, containers and irrigation water) was carried out, as well as of several potential materials in order to substitute the pine bark as substrate. There aren't specific products on the market to control *F. circinatum*, being important to focus on the prevention and adoption of innovative processes.

Who will benefit:

Forest nurseries, technicians, forest owners, Forest Producers Organizations, pine industry and government institutions.

Contact: João Pedro Gomes
E-mail: jgomes@ansub.pt



Supported by:



Start: 01/03/2016
End: 28/02/2019

Budget: 500.000 €

Operational Group:

Alternative methods for wireworm control in potatoes

Alternative Methoden in der Drahtwurmbekämpfung bei Kartoffeln - ARGE Drahtwurm

Practical problem

Wireworms cause major damage in potatoes, which only in Austria is estimated at several million Euros each year. As no pesticides are currently approved for control of wireworms in potato, there is a need for the development of alternative, effective and environmentally friendly control methods.

Partners

Type:

NGO

Name:

GLOBAL 2000 Umweltforschungsinstitut

Producers/farmers

Erzeugergemeinschaft Bauerneräpfel Verkaufs GmbH; E. Rauchberger; J. Mayer; P. Votzi; K. Paul; Sauwalderäpfel Eduard Paminger KG; Giner Kartoffel&Gemüse GmbH

Advisor

InteressenGemeinschaft Erdäpfelbau

Research institutes

University of Innsbruck; Meles GmbH; Agroscope; AGES GmbH

Project

Objectives:

The aim of the project is to develop effective and environmentally friendly control methods as alternatives to the use of pesticides. Following a screen, several methods will be tested under practical field conditions in close cooperation with farmers to ensure applicability of the methods.

Expected results:

The identification of one or more alternative methods which result in satisfactory wireworm control in all major Austrian potato growing regions will be the main project result.

Additionally, results are expected about the occurrence and distribution of wireworm species, virulence of different entomopathogenic fungal strains, and field effectiveness of various control measures against wireworms.

Results so far/first lessons:

Basic information necessary for alternative control measures such as the spatial and temporal wireworm distribution, and the species-specific virulence of entomopathogenic fungal strains has been established.

Preliminary results from the field trials show that wireworms can be lured into dense wheat strips, and summer-applied entomopathogenic fungi can be found in the soil the subsequent spring.

Who will benefit:

Potato growers will be the main beneficiaries. Advisors, the scientific community and the environment will also benefit.

Contact: Peter Schweiger
E-mail: peter.schweiger@global2000.at



Supported by:



EIP Netzwerk
Agrar & Innovation
Niedersachsen



Start: 18/05/2016
End: 15/02/2019

Budget: 802.881 €

Operational Group:

Automated behavioural enrichment for poultry – development of an innovative system to improve animal welfare

Automatische Beschäftigungsanlage für Legehennen und Puten – Entwicklung eines innovativen und tierwohlorientierten Haltungssystems

Practical problem

As a result of stopping with beak trimming in laying hens and turkeys, injuries caused by behavioural disorders like feather pecking and cannibalism are expected. Offering manipulable material can be a promising approach to prevent the occurrence of these behavioural disorders.

Partners

Type:

Research institutes

Name:

University of Veterinary Medicine Hannover, Foundation; Institute for Animal Hygiene, Animal Welfare and Farm Animal Behaviour

Farmers organisation

Chamber of Agriculture Lower Saxony

Laying hen farmers

Richard Mardink; Habermann GbR; Holger Dohrmann; Geflügelhof Höckel GmbH&Co.KG

Turkey farmers

Geschwister Rust GbR; Norbert Schmidt

Turkey hatchery

Moorgut Kartzfehn von Kameke GmbH & Co. KG

The OG is now cooperating with the company Big Dutchman to develop the system to turkey farming.

Project

Objectives:

The aim in laying hen husbandry is an optimisation of an existing automated enrichment system. For turkey farming an innovative automated system should be developed, considering the characteristic pecking behaviour. Data collection concerning animal behaviour, animal health and economy is also an objective.

Expected results:

Providing manipulable materials should result in a decrease of behavioural disorders like feather pecking and cannibalism, which in consequence reduces injuries and improves feather condition. Therefore, the system could contribute to animal welfare.

Results so far/first lessons:

First analysis of behavioural observations show that the automatic system is accepted by laying hens. In turkeys, it seems to be more difficult to ensure a long-lasting interest in the provided material. Different approaches are in progress.

Who will benefit:

The automatic system should have benefits for both, animals and farmers.

Contact: Nicole Kemper
E-mail: nicole.kemper@tiho-hannover.de



Supported by:



Start: April/2017
End: December/2020

Budget: 447.123 €

Operational Group:

BioPest - Integrated strategies to fight against key pests in nut species.

BioPest - Estratégias integradas de luta contra pragas-chave em espécies de frutos secos

Practical problem

Plagues that cause high damages and have difficult control. There's a quarantine plague (*D. kuriphilus*) for which there isn't technical information or chemical substances to control them. Search alternative means of struggle that allow increase productivity, quality and sustainability of cultures.

Partners

Type:

Research/ Teaching

Name:

INIAV - Instituto Nacional de Investigação Agrária e Veterinária, I.P.; Inst. Politécnico de Bragança; Inst. Politécnico de Castelo Branco; Inst. Politécnico de Viana do Castelo ; Univ. Trás-os-Montes e Alto Douro; Centro Nacional Competências dos Frutos Secos

Agri association

Associação Agro-florestal e Ambiental da Terra Fria Transmontana; Associação Florestal do Lima; Asso. Florestal Vale Douro Norte; Associação Portuguesa da Castanha; Associação Regional dos Agricultores das Terras de Montenegro

Farmer

Filipe Rodrigues Pereira

Agri enterprise

Coop. Agrícola de Alfandega da Fé CRL; Coop. Agrícola de Penela da Beira CRL; Coop. Agrícola de Produtores de Frutos de Casca Rija CRL; Coop. dos Lavradores do Centro e Norte, CRL; Coop. Souto os Cavaleiros, CRL; Agro Rio Bom, LDA; Empresa Municipal de Desenvolvimento Rural de Vinhais

Project

Objectives:

It is intended to develop a set of plague protection studies and strategies to solve the chestnut, almond and walnut phytosanitary problems, through the biological protection of conservation and the application of biological and biotechnical control methods.

Expected results:

Increase the productivity and quality;
Obtain information to support the standards of almond, walnut and chestnut integrated production;
Elaborate technical flyers for the dissemination of biological and biotechnology means;
Prepare a manual of Good Agricultural Practices;
Establish an alert network about the population plague levels and combat methods. Adopt long-term technologies.

Results so far/first lessons:

Obtaining knowledge about bioecology of the chestnut, almond and walnut tree plagues, the risk periods, the evaluation of the necessity to adopt direct measures of combat and the opportunity of the interventions.
Involvement of nuts sector partners (producers, associations, cooperatives and companies) Organization/participation in "open days" and "workshops/seminars", to sensitize the producers.

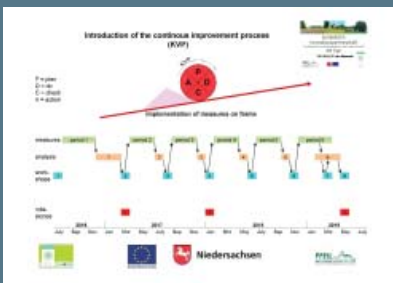
Who will benefit:

The main beneficiaries and users of the knowledge are the nut producers and the technicians of the associations.

Contact: Albino António Bento
E-mail: bento@ipb.pt



Supported by:



Start: 18/05/2016
End: 15/08/2019

Budget: 353 380 €

Operational Groups:

Development of a learning network to continuously improve health management in pig production to reduce antibiotics

Entwicklung eines LERN-Netzwerks zur Verbesserung von Gesundheitsmanagement in der Schweineproduktion zur Reduzierung des Antibiotikaeinsatzes - PIG HEALTH Lern-Netzwerk

Practical problem

The use of antibiotics has to be reduced to a minimum within the next years. Farmers have to conduct farm specific measures to improve health management. Farmers have to take into account that the use of antibiotics depends on many factors and that different factors are impacting on animal health.

Partners

Type:

Farmers organisation

Name:

VzF GmbH Erfolg mit Schwein, Uelzen

Research institutes

Department of Animal Sciences, Georg-August-Universität Göttingen; Institute of Production Systems and Logistics, Leibniz; Universität Hannover; University of Veterinary Medicine, Hannover

State organisation

Swine Health Service, Chamber of Agriculture Lower Saxony, Oldenburg

Private company

Marketing Service Gerhardt, Garbsen

Project

Objectives:

Aims are: (i) to develop a learning network to enhance the willingness to continuously improve hygiene and health management in pig production; (ii) to implement a continuous improvement process to reduce the use of antibiotics; (iii) to elaborate guidelines to transfer the results to other workgroups.

Expected results:

Based on the learning network, the hygiene and health management shall be improved on the farms and animal welfare and competitiveness will be increased. The cooperation between farmers, veterinarians, and consultants shall be strengthened to meet the challenges of economic issues, farm animal well-being, society and market.

Results so far/first lessons:

The OG partners use different specific wording which is not commonly known (e.g. biosecurity, feed-conversion) and the understanding of expressions differs (e.g. animal health, farm animal well-being). That is a challenge for networking. Launching the "continuous improvement process" made it obvious that the tasks and interests of farmers, veterinarians and consultants need to be well detected.

Who will benefit:

The project will benefit farmers, veterinarians and concerned professionals, and improve farm animal well-being.



Supported by:



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

Budget: 316.164 €

Operational Group:

Efficiency Check

Effizienz-Check: Entwicklung einer modernen und praxisgerechten Web-Applikation zur Unterstützung der Milchbauern für gezielte Maßnahmen zur Verbesserung der ökonomischen und nährstoffbezogenen Effizienz in der Milchproduktion

Practical problem

Dairy farms are very complex systems and their farmers are confronted with many different facts and figures on varying information sources. So it's very difficult to optimize their tool chains and workflows for an optimal profitability in milk production.

Partners

Type:

Farmers association

Name:

Association of Austrian Cattle Breeders (ZAR)

State organizations

Chamber of Agriculture in Upper Austria (LK OÖ); Styrian Animal Health Service (TGD Stmk.)

Private companies

LKV Austria Qualitätsmanagement GmbH; ZuchtData EDV Dienstleistungen GmbH

In addition, farmers, veterinarians and provincial recording associations are closely involved in the project.

Project

Objectives:

Define farmers needs for analysing tools.

Set up data interfaces and develop a Handy App for collecting needed information on farm.

Find ways to model the linkage between management, housing conditions, animal health and profitability.

Develop a WEB Application to visualize this linkage.

Expected results:

A WEB application to visualize the linkage between management, housing conditions, animal health and profitability. Thus, farmers will call higher attention to animal welfare and health. Only healthy cows that feel comfortable within their housing are able to use their full capability for milk production. The WEB application will be accessible for farmers and their vets and advisors, free of charge.

Results so far/first lessons:

We made workshops and a survey with farmers and staff members of provincial recording associations to collect their expectations in such a WEB application.

The modelling of effects of investments in better housing conditions and health monitoring tools on profitability of milk production is very difficult, because it depends especially on the quality of implementation.

Who will benefit:

All dairy farmers with cows under milk performance control.

Contact: Franz Steininger
E-mail: steininger@zuchtdata.at



Supported by:



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

Budget: £ 81.000

Operational Group:

Live Lambs: Improving lamb survival and farm profitability

Practical problem

The average Scottish Less Favoured Area Upland Ewe Flock rears 143 lambs per 100 ewes. Despite advances in knowledge this figure has changed little in the last 25 years. Rearing more lambs from the same number of ewes will help farmers reduce cost of production.

Partners

Type:

Pharmaceutical company

Feed company

Name:

MSD Animal Health

Rumenco

In addition, five focus farmers are working closely with the partners, while their data and experiences are shared with a wider group of farmers for discussion and knowledge transfer.

Project

Objectives:

Reduce and benchmark lamb deaths from mating to sale with five focus farmers and a larger farmer discussion group.
Encourage condition scoring to validate ewe nutrition.
Trial DUP supplements in ewe feed to assess effect on lamb deaths.
Highlight relevant research.
Disseminate project benefits.

Expected results:

Higher lamb survival rates and increased number of lambs sold on five focus farms and wider farmer group.
Greater uptake of condition scoring to aid feed planning.
Improved animal health planning.
Increased use of high DUP feeds in late pregnancy.
Improved farmer understanding of ewe and lamb behavior.
Improved farm and industry carbon footprint.

Results so far/first lessons:

All but one of the focus farmers have recorded a reduction in lamb losses over three years. Target rearing rate is context dependent; it is important to understand the context before interpreting the results. The best performing farmer achieved 8% losses from scanning to sale and is on track to sell 175% lambs per ewe.

Who will benefit:

Farmers - increased output, Flock - improved welfare, Global community - reduced carbon emissions per unit of product.



Colaborative Business R&TD Projects:

PIGS+CARE – Production optimization of heavier pig carcasses by natural and zealous means without castration, aiming for new meat products without residues and high added value

PIGS+CARE - Otimização da produção de carcaças pesadas de suíno de modo natural e zeloso sem recurso à castração, visando novos produtos cárneos sem resíduos e elevado valor acrescentado

Practical problem

Surgical castration soon will be banned in European Union and occurrence of boar taint may depreciate meat. Chemical castration is an expensive alternative but not very attractive to consumers.

Partners

Type:

Agri enterprise

Name:

Cevargado, Lda.; Primor – Charcutaria, SA; ICM - Indústria de Carnes do Minho, SA

Research/ Teaching

Instituto Politécnico de Viana do Castelo - Escola Superior de Tecnologia e Gestão; Instituto Politécnico de Coimbra - Escola Superior Agrária de Coimbra

Supported by:



Project

Objectives:

The project aims to meet the following objectives:

- Introduce functional foods in finishing diets that ensure a substantial reduction of male odour (androstenone and skatole) in fresh and processed pork meat and ascertain the effect of processing techniques on perceiving odour and flavour.
- Introduce hygienic and animal welfare practices in pigs housing and transport to attenuate absorption and synthesis of male odour precursor compounds in fresh and processed pig meat and ascertain the effect of processing techniques on odour and flavour perception
- To set up a sensory panel specialized in the detection of androstenone and skatole in fresh and processed pork meat.
- To present a quality seal (+CARE) that demonstrates practices level of animal welfare, improve animal health and reduce the environmental impact of pig farming.
- To gain pork consumers in very demanding markets in relation to animal welfare conditions and sensitive to the assumptions under study.

Expected results:

Alternative models of pig feeding and housing that allows new meat products to be obtained without (or very reduced) odour or boar flavour, will be developed. These innovative systems of animal husbandry and transport, sponsoring greater welfare, hygiene and animal health, will guarantee a less artificial and less contaminated production chain targeting ethical consumerism demands.

Results so far/first lessons:

- Pure insulin is an expensive prebiotic but with proven good effect on boar taint. In this project we will feed pigs knowing the exact inulin content for a better understanding of other factors affecting boar taint.
- Our first results of insulin analysis show that corn is very low (0% DM) but wheat, barley and soya or rapeseed meal have contents around 5% on dry matter.

Who will benefit:

- Consumers: less chemicals;
- Enterprises: new products and markets
- Animals: greater welfare

Start: January/2017
End: December/2019

Budget: 943.327 €



Contact: Manuela Vaz Velho
E-mail: mvazvelho@estg.ipvc.pt



Supported by:



Start: April / 2014
End: December/ 2017

Budget: 311 409 €

PRODER:

PROFRUTA - Characterization of Portuguese Propolis and Evaluation of its Potential in the Control of Plant Diseases

PROFRUTA -

Practical problem

Proliferation of plant diseases occurs due to climate changes and microbial resistance to phytopharmaceutical products. Increasing dose or variety of pesticides used may affect the plant homeostasis. Natural fungicides and bactericides could be an alternative or complement to traditional treatments.

Partners

Type:

Name:

Agri Enterprise
Others Associations
Research/Teaching

Beecaramulo Lda
COTHN-Centro Operativo e Tecnológico Hortofrutícola Nacional
Faculdade de Ciências e Tecnologia
Universidade Nova de Lisboa
Instituto Nacional de Investigação Agrária e Veterinária, I.P.

Project

Objectives:

Chemical and functional characterization of Portuguese propolis extracts; development of formulation appropriate for plant treatment; "In vitro" and "in vivo" evaluation of propolis fungicide and bactericide activity; sensorial and functional characterization of fruits treated with propolis.

Expected results:

Standardization of propolis extracts relatively to their fungicide action; Development of formulations appropriate for fruit treatment and determination of inhibitory doses; Evaluation of the effect of propolis application in the physiology, sensorial attributes and functional properties of treated fruits; Validation of laboratory results in field tests

Results so far/first lessons:

In vitro assays showed that propolis extracts were able to inhibit the growth of *Penicillium expansum*, *Botrytis cinerea*, *Alternaria alternata*, *Colletotrichum gleosporioides*, *Stemphylium vesicarium*. Pears treated with propolis and pears treated with commercial fungicides did not show marked differences in what concerns fruit rot.

Who will benefit:

Fruit producers (alternatives for fruit protection), Propolis Producers (increasing the market for propolis)



Supported by:



Start: January/2017
End: January/2021

Budget: 331.031 €

Operational Group:

QUALITOMATE - the complexity of being simply RED.

QUALITOMATE - a complexidade de ser simplesmente vermelho.

Practical Problem

The RED color in the fruit's pulp is a conditioning characteristic in the processed tomato industries.

The knowledge of the correct factors and their interactions to the RED color formation is the pathway to decrease the percentage of fruits rejection.

Partners

Type:

Research/ Teaching

Agri association

Agri enterprise

Name:

Centro de Competências para o Tomate Industria (CCTI); ISA-Instituto Superior de Agronomia; Instituto Politécnico de Santarém/ESA

Centro Operativo e Tecnológico Hortofrutícola Nacional; FNOP-Federação Nacional das Organizações de Produtores de Frutas e Hortícolas

ITALAGRO- Indústria de Transf. de Prod. Alimentares, S.A.; RELCAMPO - Viveiro de Plantas Hortícolas; Sociedade Agrícola Ortigão Costa, Lda.; Sociedade Agro-pecuária do Vale da Adega, S.A.; FRUTO MAIOR, OP Hortofrutícolas Lda.; TOMATAZA S.A.

Project

Objectives:

The project aims to increase the knowledge of the external causes and its interaction with the tomato plant physiology, facilitating hypothesis to maximize the occurrence of red fruits.

The understanding of the causes will guide the sector to adopt correct practices in the pursuit of waste mitigation.

Expected results:

The project has two major branches of studies: one is related with external factors (diseases, fertilization, soil) and other linked with the plant physiology and its capacity to respond to the surrounding agri-system.

All the planned work intends to increase the knowledge about the tomato culture, focusing in the quality of the fruits and decreasing the rejections in the end of each campaign.

Results so far/first lessons:

Crop protection of processing tomato crop in Portugal has been studied since 2001 to develop IPM strategies, particularly risk assessment techniques and decision making rules.

Firstly to control usual problems (downy mildew and caterpillars) and also to study new species, *Frankliniella occidentalis*/ TSWV and more recently *Tuta absoluta*. The current consortium enables the recent working in progress.

Who will benefit:

The efficient use of resources will affect directly the agri-system's actors, producers and the industrial quality.

Contact:Qualitomate Consortium
E-mail:info@qualitomate.pt



Supported by:



Start: September/2017
End: August/2022

Budget: 448.741 €

Operational Group:

UNDERCORK - Integrated management of the flathead oak borer
Coroebus undatus.

UNDERCORK - Gestão integrada da cobrilha (*Coroebus undatus*) da cortiça.

Practical problem

The *Coroebus undatus* attacks the cork oak (*Quercus suber* L.) developing galleries in the cork tissue being a major source of cork devaluation. The extracted cork planks become unsuitable for the production of natural cork stoppers, with huge economic impact for cork producers and the cork industry.

Partners

Type:

Agri association
Research/Teaching
Agri enterprise

Name:

Unac - União da Floresta Mediterrânica
Instituto Nacional de Investigação Agrária e Veterinária IP; Instituto Superior de Agronomia; Universidade de Évora
Amorim Florestal, Sa; Companhia das Lezírias S.A. ; Herdade do Pinheiro, S.A.; Luís Filipe Bual Falcão da Luz; Sociedade Agrícola Monte da Sé Lda.

Project

Objectives:

Based on the information about the impact and spatial distribution of *Coroebus undatus*, the objectives are to know the mechanisms that regulate the selection of host trees, to develop methods of preventive management and control methods to reduce their population levels.

Expected results:

Risk probability models and identification of the most determinant variables for the *Coroebus undatus* presence. Develop new methods of detection, diagnosis, monitoring, and control (Identify native natural enemies; detection of the *Coroebus undatus* before the cork extraction; traps for monitoring and capture) to be used as integrated strategies to reduce the attack levels. Knowledge transfer.

Results so far/first lessons:

The analysis of the cork defects showed that the majority remained stable and at low values (<5%) since 2002. However the *Coroebus undatus* evidenced a tendency to grow: the mean intensity of the attacks increased to 40%. In recent years, some studies have been carried out to develop control methods (traps with pheromones) for the *Coroebus undatus*, but the results are still very insufficient.

Who will benefit:

Cork producers, forest associations/cooperatives, forestry technicians, cork industry and plant protection companies.

Contact: Nuno Calado
E-mail: ncalado@unac.pt

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

Agriculture products and food processing





Supported by:



Start: September/2017
End: April/2021

Budget: 380.595 €

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:

Research/ Teaching
Agri association
Agri enterprise

Name:

INIAV, I.P. – Instituto Nacional de Investigação Agrária e Veterinária
COTHN - Centro Operativo e Tecnológico Hortofrutícola Nacional
Beira Baga - Sociedade de Produção e Comercialização Pequenos Frutos, Lda;
FirstFruit - Produção e Comercialização, Unipessoal, Lda.; Campina Produção Agrícola, Lda.; Mirtisul - Produção de mirtos, 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-caness 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.

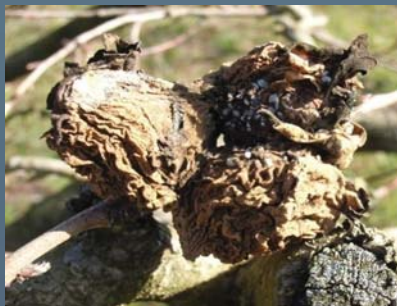
Contact: Pedro Brás de Oliveira
E-mail: pedro.oliveira@iniav.pt



Supported by:



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



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

Budget: 184.300 €

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:

Producers of stone fruit and packinghouses

Name:

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.





Supported by:



Start: January/2017
End: January/2021

Budget: 400.552 €

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:

Research/Teaching

Name:

Centro de Competências para o Tomate Indústria (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.; Tomaterria Organização de Produtores de Tomate C.R.L.

Other company

Espirálpixel, 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.

Contact:Greentaste Consortium
E-mail:info@greentaste.pt



Supported by:



GENETIC DIVERSITY



ENZYME DIVERSITY



INNOVATION IN CHEESE MANUFACTURE

Start: May/2017
End: April/2020

Budget: 430.122 €

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:

Research/ Teaching

Agri association

Agri enterprise

Other company

Name:

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
Ancose - Associação Nacional de Criadores de Ovinos Serra da Estrela
Centro de Biotecnologia Agrícola e Agro Alimentar do Alentejo; Cataa - Associação Centro de Apoio Tecnológico Agro-Alimentar De Castelo Branco; 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
E-mail: mbarros@viseu.ucp.pt



Supported by:



Start: October/2017
End: May/2020

Budget: 350.000 €

Operational Group:

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

LACTIES Inovação, Eco-Eficiência e Segurança em PME's 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:

Research /Teaching

Agri enterprise

Agri Association

Name:

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

Lourofood Ida; Queijaria Guilherme; Unipessoal, Ida; Tété ii-Produtos Lácteos Ida; Valinox-Indústrias Metalomecânicas,SA; Sabores e Ambientes Serra da Estrela, Comercialização de Produtos tradicionais Lda

Acos-Associação de Agricultores do Sul; Ancose-Associação 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.

Contact: Carlos Dias Pereira
E-mail: cpereira@esac.pt



AGRI INNOVATION SUMMIT 2017
More information: www.aislisbon2017.com





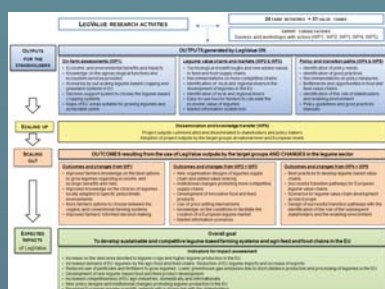
Horizon 2020:

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

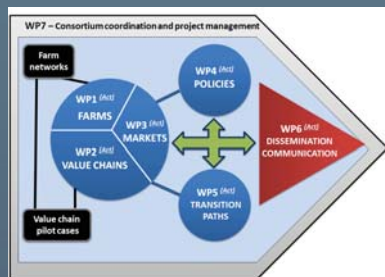


Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727672



Large diversity of legume species
Grain and fodder



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 agrarinių ir mėsos mokslų centras (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:

- 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
- Specify the involvement and the expected outcomes of the 24 farm networks covering a large diversity of legume species
- Looking after relationship with other H2020 projects and national projects dealing with legumes
- 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.



Contact: Frédéric Muel
E-mail: f.muel@terresinovia.fr



Supported by:



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

Budget: 204.200 €

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.

Contact: Tanja Gärtner
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Contact: Katja Hruschka
E-mail: khruschka@thueringertierseuchenkasse.de



Supported by:



Start: May/2017
End: April/2020

Budget: 353.684 €

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:

Research/Teaching

Agri association

Other Assotiation

Other enterprise

Farmers

Name:

I&Tec-Caps – Innovation & Technology Encapsulation Solutions, Lda; Universidade Católica Portuguesa; Instituto de Biologia Experimental e Tecnológica-IBET

Cooperativa Agrícola de Alfândega da Fé CRL; Agritábua -Cooperativa Agrícola do Concelho de Tábua, CRL

Associação BLC3 - Campus de Tecnologia e Inovação

Voz da Natureza, Lda.

Frederico Manuel de Oliveira Carvalho

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.

Contact: Tânia Ribeiro
E-mail: tania.ribeiro@blc3.pt



Supported by:



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

Budget: 13.570 €

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	Optimiza
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.

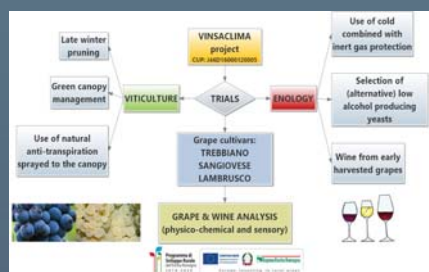
Contact: Mirian Molina Mestanza
E-mail: mmolina@idiazabalgazta.eus



Supported by:



Tecnopolo extension center - Via Tebano 54, 48018 Faenza (RA), Italy - Lat. North: 44° 17' 18"; Long. East: 12° 47' 11"



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

Budget: 347.870 €

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.

Contact: Andrea Versari
E-mail: andrea.versari@unibo.it

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

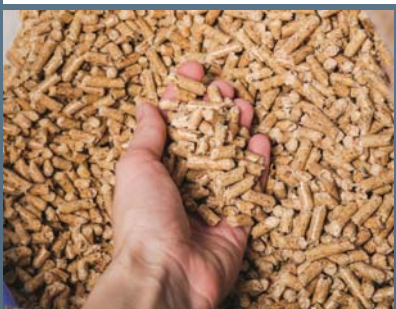
Forest management and fire prevention





Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 696394



Start: May/2016
End: August/2018

Budget: 1.997.416 €

Horizon 2020:

AGRIFORVALOR : Bringing added value to agriculture and forest sectors by closing the research and innovation divide

Practical problem

There is a gap between research and innovation regarding valorisation of agriculture and forestry biomass sidestreams. AGRIFORVALOR will close it by creating multi-actor innovation partnership networks.

Partners

Names:

Steinbeis 2I GmbH (DE); Institute of Technology Tralee (IE); Universiteit Gent (BE); Stichting Wageningen Research (NL); Agencia Andaluza del Conocimiento (ES); Bay Zoltan Alkalmazott Kutatasi Kozhasznu Nonprofit Kft (HU); Growabrics (BE); Cooperativas Agro-Alimentarias de Andalucia (ES); Asociacion de Empresas Forestales y Paisajisticas de Andalucia (ES); Gabinete de Iniciativas Europeas Sa (ES); Teagasc - Agriculture and Food Development Authority (IE); Feirmeoiri Aontuithe NA H-Eireann Iontaobhathe Teoranta Lbg (IE); Ibec Limited*Irish Business and Employers Confederation (IE); Nemzeti Agrarkutatasi es Innovacioskozpont (HU); Lenduletben Az Agro-Biotech Vallalkozas-Fejlesztés; Innovativ Non-Profit Alapitvány (HU); Pilze-Nagy Kft. (HU)

Project

Objectives:

Valorise biomass side streams from agriculture and forestry by facilitating knowledge transfer through "Innovative design hubs". These will enable and support farmers and foresters to exploit existing research results on valorisation technics and will facilitate bio-industry application and business model development.

Expected results:

- Research and innovation agenda on agriculture and forest biomass side streams at regional and EU level;
- new operational groups for EIP AGRI;
- 3 new business models;
- interactive online side stream value tool;
- hands-on end-user material.

Results so far/first lessons:

- Interactive online side stream value tool;
- compendium on research and innovation results;
- innovation partnership groups in the hubs on specific topics;
- training materials.
- Project website: <http://www.agriforvalor.eu>

Who will benefit:

Farmers, foresters, (bio) industry, researchers and policy makers.

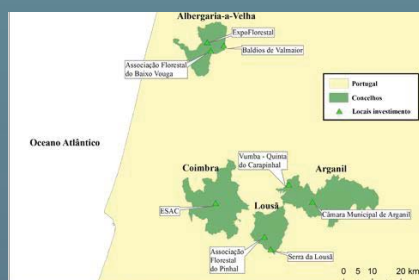


Contact: Hartmut Welck
E-mail: welck@steinbeis-europa.de

FOREST MANAGEMENT AND FIRE PREVENTION



Supported by:



Start: January/2017
End: December/2021

Budget: 465.798 €



Operational Group:

Aliens and Flames.

Fogo e Invasoras.

Practical problem

Acacia dealbata and *Hakea sericea* are two important fire-adapted invasive plant species in Portugal. Prescribed fire is a fuel management technique used to prevent forest fires. Unaware use of fire can promote plant invasions but an informed use may help solving this problem.

Partners

Type:

Research /Teaching
Agri Association
Agri enterprise

Name:

Instituto Politécnico de Coimbra
Associação Florestal do Baixo Vouga; Associação Florestal do Pinhal
GreenClon Lda; SFERA Ultimate Lda; Silvokoala Lda; Vumba SA

Project

Objectives:

To study the two-way relationships between fire and the two target invasive species. To develop best-practices to use fire as a fuel-management tool in invaded areas and as an ecosystem-management tool to control plant invasions. To disseminate the obtained knowledge among stakeholders.

Expected results:

Advanced knowledge on the fire ecology of invasive plants. A characterization of fuel models associated with the two species. A characterization of fire behaviour in invaded areas. The possibility of forecasting the risk of invasion in burned areas. A guide of best practices for the use of fire in invaded areas, to be distributed among managers and other stakeholders.

Results so far/first lessons:

There was a preliminary assessment of potential areas for the establishment of experimental plots.

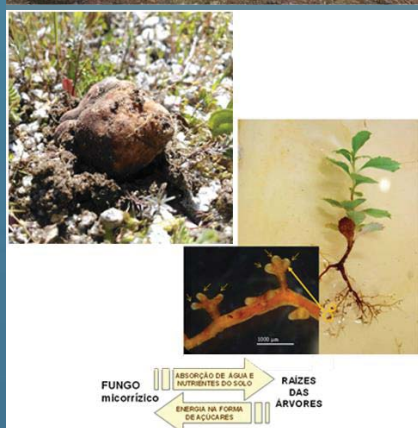
Who will benefit:

Forest managers and forest owners.
Forest companies and service suppliers.
Training and teaching institutions.

Contact: Joaquim Sande Silva
E-mail: jss@esac.pt



Supported by:



Start: May/2017
End: December/2021

Budget: 429.389 €

Operational Group:

FitoMicorrizas - Mycorrhizae Plants Production.

FitoMicorrizas - Produção de plantas micorrizadas.

Practical problem

Wild mushrooms production presents two main problems:

- the need of new processes to optimize mycorrhization rates and selection of species with added value and tolerance to climatic changes;
- an inadequate monitoring process to improve efficiency and quality of the final products.

Partners

Type:

Research/ Teaching
Agri Association
Other Company
Other Association

Name:

Instituto Politécnico de Coimbra
Cooperativa Agrícola de Alfândega da Fé CRL
Voz da Natureza,Lda.; Greenclon,Lda.
Associação BLC3 - Campus de Tecnologia e Inovação

Project

Objectives:

Fitomicorrizas main goal is to achieve new strategies for native resources valorization, presenting new solutions to increase production efficiency of mycorrhizal plants and wild mushrooms, improving its management and aiming at the sustainability of forest systems with high environmental value.

Expected results:

Fitomicorrizas initiative will develop an optimized micorrization methodology through the selection of added value forestry species and native fungi strains. A support guide will be designed for production and maintenance of mycorrhizal forest plants, allowing the creation of a producers group, which will receive an added value co-product and higher quality forest plants, increasing their profit.

Results so far/first lessons:

Castanea and *Arbutus unedo* plants were mycorrhized with *T. borchii* and *L. deliciosus* and were established in field trials. These symbioses increase the resilience of plants to the climatic changes and stresses, such as water and nutrients uptake and the inherent increase of plants vigor and resistance to diseases, allowing the creation of a product with an add value for forest producers.

Who will benefit:

Forest owners, their associations, sectors linked (cork) and also the mycological sector.

Contact: Inês Ferreira
E-mail: ines.ferreira@blc3.pt



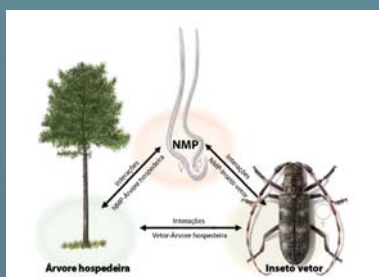
Supported by:



PROGRAMA DE
DESENVOLVIMENTO
RURAL 2014-2020



UNION EUROPEAN
Fundo Europeu Agrário
Ao Desenvolvimento Rural
A Europa investe nas zonas rurais



Start: January/2017
End: December/2020

Budget: 444.857 €

Operational Group:

GI (PIN) – Integrated management of pine forest / Pinewood nematode

GI (PIN) – Gestão Integrada do Pinheiro Bravo / Nemátode da Madeira do Pinheiro

Practical problem

At present, there are several obstacles to the containment of pinewood nematode (PWN), *Bursaphelenchus xylophilus*, which contribute to the progression of pine wilt disease (PWD) and the consequent loss of economic value for forest landowners and for the pine industry.

Partners

Type:

Agri association

Agri enterprise

Research/ Teaching

Other enterprise

Name:

FNAPF – Federação Nacional das Associações de Proprietários Florestais; Associação para a Valorização da Floresta de Pinho – Centro PINUS Florgénese, Lda.; FLOPONOR – Florestas e Obras Públicas do Norte, S.A Instituto Nacional de Investigação Agrária e Veterinária, I.P.; Instituto da Conservação da Natureza e das Florestas, I.P.; Universidade de Coimbra FIREMAP

Project

Objectives:

This project aims to overcome the constraints caused by PWD, combining new forms of forest management, fight, methods of early detection of infected trees and decrease their impact, control the natural dispersion of the insect vector (*Monochamus galloprovincialis*), reduce costs of disease control actions and contribute to restore the confidence of landowners for the maintenance, plantation and management of new areas of maritime pine.

It is also intended to analyze the types of trees that can be infected, the influence of forest fires on the natural dispersion of PWN, to evaluate the emergence and flight of the vector under different climatic conditions, to minimize the risk of forest operations during their flight period and to create zones of active containment where it is possible to act more effectively to avoid the dispersion of PWN to the non-infected pine forests.

Expected results:

Specific strategic plan to contain the disease;
Management practices appropriate to improve the phytosanitary status of the pine forest;
Methods of early assessment of potentially infected trees;
Assessment of the risk, distance and duration of attractiveness of pine forest areas covered by fire;
Calculation of the risk of PWN infection in pine trees of different ages and dimensions or in decline due to other biotic and abiotic agents;
Evaluation of the emergency period and vector flight in different climatic conditions.

Results so far/first lessons:

This project relies on public funding, which approval is recent, making it impossible to present preliminary data.

Who will benefit:

The forest owners are the direct beneficiaries, as well as public entities of research and indirect administration of the State and financial agents that intervene in the valorization of the sector of the maritime pine.

Contact: Telma Briote
E-mail: geral@fnapf.pt



Supported by:



Start: January/2017
End: June/2020

Budget: 316.375 €

Operational Groups:

GOTECFOR - Technology for the mobilization and use of Forest Biomass in agro-industry.

GOTECFOR - Tecnologia para a mobilização e aproveitamento de Biomassa Florestal na agroindustria.

Practical problem

The main problem is the lack of economically viable solutions that allow agro industries to reduce energy costs for heating. This operation will act in the optimization of forest biomass mobilization; adequacy the equipment for this purpose; optimization of the burning processes of forest biomass.

Partners

Type:

Agri association
Research/Teaching

Agri enterprise

Name:

Forestis - Associação Florestal de Portugal
INESCTEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência; INEGI - Instituto de Ciência e Inovação em Engenharia Mecânica e Engenharia Industrial
Floresta Jovem, Lda; Sérgio Domingos Azevedo Alves

Project

Objectives:

Promoting integral management of forest resources and valuing residual products; Increase the productivity of agroforestry activities; Reduce costs of productive activities in protected crops (heating needs); Promote the use of more efficient and safer machinery in the forest Portuguese context.

Expected results:

Prototype of a software to optimize the forest biomass supply chain; Operational model for the use of biomass applied to a real case; Organizational models for the mobilization of forest biomass; An innovation roadmap for forestry machines for Portuguese industry. It is expected to influence the capacity of the sector, increasing the level of competitiveness and efficiency of production processes.

Results so far/first lessons:

The existence of a wide variety of operational conditions, as well as the type of forest biomass that is available in our forests, many of which do not have a current use (like shrubs), are demanding a higher requirement in the analysis of the starting point. On the other hand, the aspects related to the processing of forest biomass in the field are critical to the viability of its use.

Who will benefit:

Forest producers, forestry sector service providers, agroindustry and biomass plants will be the main beneficiaries.

Contact: Ricardo Marinho
E-mail: geral@forestis.pt



Supported by:

Freistaat
Thüringen



Ministerium
für Landwirtschaft
und Landwirtschaft

ELER

European Union



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

Budget: 168.000 €

Operational Group:

New aspects of micropropagation of fruit and other deciduous trees

Neue technologische Ansätze zur effektiven Vermehrung von Obst- und anderen Laubgehölzen

Practical problem

There is a demand for fast growing trees producing high value timber. Selected clones (e.g. cherry trees) have to be tested for their superior quality. Micropropagation, which is the only tool to produce these trees, is a labour-intensive method and needs to be optimized by a new technology.

Partners

Type:

Tree and horticultural nursery companies

Name:

Baumschulen Oberdorla GmbH Vogtei; TM Zierpflanzen GmbH Mühlhausen

Forest research stations

Staatsbetrieb Sachsenforst Pirna; ThüringenForst Gotha

Advisory service

Arand Unternehmensberatung Mühlhausen

Project

Objectives:

Propagation of selected clones of cherries and aspen for field trials.
Field trials to demonstrate the superior quality of the clones.
Optimization of different steps in micropropagation by using multiwell culture trays and application of LED illumination for growth stimulation.

Expected results:

Forest owners become convinced to plant fast growing superior trees by field trials.
Efficiency of micropropagation is increased by higher propagation rates.
Work during greenhouse transfer and acclimatization is reduced by using new culture trays for rooting the cuttings.
Work peak is reduced by storage of rooted plantlets.
Changed culture parameters are estimated in order to adapt the technology.

Results so far/first lessons:

About 120 clones of fast growing trees selected by tree breeding stations were established in vitro and a first set of plantlets were produced. Forest trials of registered clones were just planted.
Tissue culture trays developed for the propagation of fern plants were adopted to cherry tree clones. Trays filled with different materials were tested in combination with different LED illumination.

Who will benefit:

Forest owners, forest research stations which have no facilities for micropropagation and companies working on micropropagation.

Contact: Hardy Dembny
E-mail: h.dembny@baumschulen-oberdorla.de



Supported by:



Start: November/2017
End: December/2021

Budget: 326.000 €

Operational Group:

OakRegeneration - The reassessment of regeneration strategies in the Mediterranean scattered-oak woodlands.

OakRegeneration - Reavaliação das estratégias e modelos de gestão para a criação e manutenção de áreas de regeneração natural de povoamentos dispersos de sobreiro e de azinheira.

Practical problem

The lack of successful (long-term) natural tree regeneration is recognized as a major problem on Mediterranean scattered-oak woodlands. There is a pressing need to improve woodlands management practices to properly regenerate oaks.

Partners

Type:

Research/ Teaching

Agri association

Agri enterprise

Name:

INIAV - Instituto Nacional de Investigação Agrária e Veterinária, I.P.

ANSUB - Associação de Produtores Florestais do Vale do Sado; AFLOSOR - Associação de Produtores Agro-Florestais da Região de Ponte de Sor; ACHAR - Associação de Agricultores de Charneca; ADPM - Associação para o Estudo e Defesa do Património Natural e Cultural do Concelho de Mértola

CL - Companhia das Lezírias, S.A.; EDIA - Empresa de Desenvolvimento e Infraestruturas do Alqueva, S.A.; Herdade do Paúl - Sociedade de Gestão Rural, Unipessoal Lda; Anta de Cima - Sociedade Agrícola Unipessoal Lda; Pedro Sacadura Teixeira Cabral Duarte da Silveira; César Sacadura Mexia de Almeida; Carlos Frederico Abecassis do Amaral Neto; Sociedade Agrícola do Casal das Pombas, S.A.

Project

Objectives:

The reassessment of regeneration strategies in the Mediterranean scattered-oak woodlands by:

Detecting and making use of trees natural regeneration hotspots and;

Creating conditions to favor a successful natural oak regeneration process, on appropriate areas.

Expected results:

Understanding on oak natural regeneration dynamics in Mediterranean scattered-oak woodlands;

Growing knowledge about planning and managing scattered-oak woodlands to naturally regenerate;

Being able to prescribe with certainty management practices to increase the success of oak natural regeneration;

Increasing oak natural regeneration hotspots areas in Mediterranean scattered-oak woodlands.

Results so far/first lessons:

Operational Group.

Who will benefit:

Forest owners and managers;

Farm policy makers;

Society as a whole.

Contact: Augusta Costa
E-mail: augusta.costa@iniav.pt



Supported by:

The projects of the programme Pour et Sur le Développement Régional (PSDR4 Rhône-Alpes) receive fundings from INRA, Rhône-Alpes Region, Insee and the European Union through the FEADER as part of the European Partnership for Innovation (EIP-AGRI).



Start: 01/10/2015
End: 30/09/2019

Budget: 900.000 €

Operational Group:

OUI-GEF : Innovative tools for collaborative forest management

OUI-GEF - Outils innovants pour une gestion concertée des forêts : de la superposition des usages au projet territorial

Practical problem

The OUI-GEF Operational Group aims at developing technical and organizational innovations that help building territorial forest strategies. In a context of increasing pressure on wood resources, it should promote a sustainable management that ensures a diversity of ecosystem services.

Partners

Type:

Research institutes

Name:

IRSTEA Mountain Ecosystems and Mountain Territories Development Research Units; ESPACE (Aix Marseille University, Avignon University, Sophia Antipolis University and CNRS) and EDYTEM (Savoie Mont Blanc University and CNRS) mixed research units.

Forest management organisations

Office National des Forêts (ONF); Institut de Développement Forestier (IDF); Centre Régional de la Propriété Forestière (CRPF)

Regional authorities

Natural Regional Parks (Chartreuse, Massif des Bauges and Pilat)

Project

Objectives:

Develop innovative methods to assess forest structure parameters.
Develop operational tools to assess ecosystem services.
Foster a common culture on forests and forestry at a local scale, by a fair sharing of knowledge that promotes collaborative forest planning and local development.

Expected results:

Thematic maps on forest parameters and ecosystem services (wood production, protection against natural hazards, forest maturity).
Comprehensive analysis of existing local wood supply chains to diagnose their sustainability.
Multifunctional set of indicators to assess the quality of logging operations.
Shared base of metadata including complementary data sources for forest projects development.

Results so far/first lessons:

Protection against snow avalanches and rockfalls thematic maps.
Field methodology to quickly assess forest maturity at a local scale.
Shared multifunctional set of indicators to assess the quality of logging operations.
Census and first diagnostic of local wood supply chains.
Analysis of data and data fluxes involved in a collaborative local forest development project.

Who will benefit:

Forest managers, local development structures (i.e regional parks) and wood transformation industries.

Contact: Marc Fuhr

E-mail: marc.fuhr@irstea.fr



Supported by:



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

Budget: 57.432 €

Operational Group:

SHORT-ROTATION COPPICE: an opportunity for future regional bio-refineries?

Les taillis à courte rotation : une opportunité pour les futures bioraffineries régionales ?

Practical problem

Lack of agronomic reference about the feasibility, the yield and the quality of the short-coppice rotation (with Acacia, Eucalyptus and, in some location, poplar, willow) under Mediterranean climate in France and also on marginal lands.

Partners

Type:

Forestry cooperative

Name:

Alliance forestière

Multi production cooperative

Arterris

Development farmers organisation

Chambres d'agriculture de l'Aude et des Pyrénées-orientales

Research and technical institute

FCBA-Foret bois cellulose ameublement

Project

Objectives:

Increase knowledge on the productivity of some short-coppice rotations which could be interesting in Mediterranean conditions.

Elaboration of factsheets on the species: agronomy, yield, quality, inc. economic aspects.

Create a network of trials covering the regions varied climate conditions and soils.

Expected results:

For Robinier (Acacia), Eucalyptus, poplar, willow: yield, agronomy, harvest, costs.

To give advice on the opportunity (or not) to have those species in the rotation and how to integrate them (guidelines).

To incentivize future local bio-refineries to use these species if they are productive.

Knowledge transfer.

Results so far/first lessons:

As the last harvest has been made at the end of July 2017, the results of the quality of the products are not available yet.

We need to have both yield but also - and it's the most important - the quality of those products.

Who will benefit:

Farmers.

Contact: Anne Boutitie
E-mail: anne.boutitie@lrmp.chambagri.fr

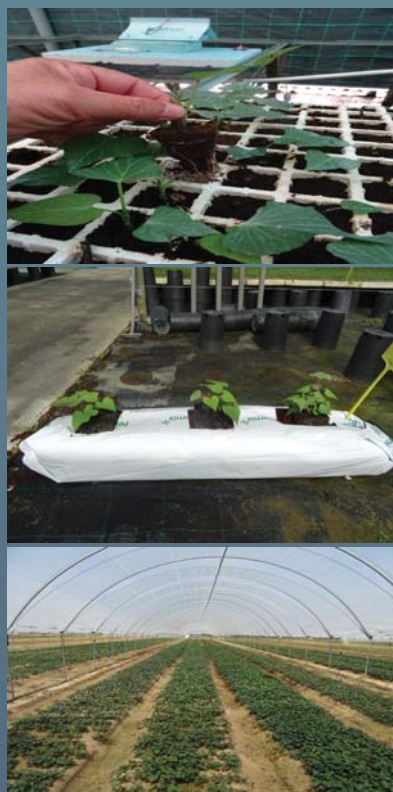
MANAGEMENT OF FARMING, FOOD AND FORESTRY
SYSTEMS & VALORIZATION OF THE TERRITORY

Valorization of the territory and use of endogenous resources





Supported by:



Start: November/2017
End: October/2020

Budget: 150.000 €

Operational Group:

BDMIRA - Sustainable and competitive sweet-potato at Mira irrigation zone: innovative practices and organizational dynamic.

BDMIRA - Batata-doce competitiva e sustentável no Perímetro de Rega do Mira: técnicas culturais inovadoras e dinâmica organizacional.

Practical problem

Sweet potato productivity at Mira region declined due to phytosanitary/cultural practices problems in nurseries/field, affecting, among others, Lira variety, a Protected Geographical Indication. Lack of free virus 'Lira' plant material lead to import others with economic/ecological constraints.

Partners

Type:

Research/ Teaching

Agri association

Agri enterprise

Name:

INIAV, I.P. – Instituto Nacional de Investigação Agrária e Veterinária;
ESA/IPS – Instituto Politécnico de Santarém/Escola Superior Agrária
AHSACV – Associação de Horticultores do Sudoeste Alentejano e Costa Vicentina
ASF Portugal Unipessoal, Lda; Gemüsering Portugal Produção Hortícola Lda.

Project

Objectives:

Provide a production model to obtain virus and diseases free plant propagation material (in vitro culture) and production/post-harvest technologies better adapted to local soil and climatic conditions;
Increase, at national/international level the competitiveness of nurseries/producers through the adoption of a new organizational dynamic;
Implement environmental friendly cultural practices.

Expected results:

To obtain the Portuguese sweet-potato Lira variety (Protected Geographical Indication) of higher quality;
Transfer of methodologies (nursery, production and post-harvest) to increase between 30-50% of sweet potato yield;
Publish a practical guide.

Results so far/first lessons:

Build the project with the stakeholders since the idea arose.
Project will start soon but meanwhile project team knowledge includes: diseases and pest diagnostic; irrigation/fertilization/post harvest technologies (INIAV); in vivo, in vitro plant propagation techniques (ESA/IPS); production experience for national/foreign markets (ASF and Gemüsering); producers association experience in awareness rising and stakeholders engagement/participation (AHSACV).

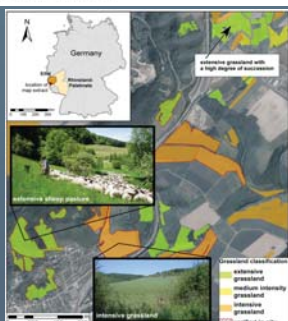
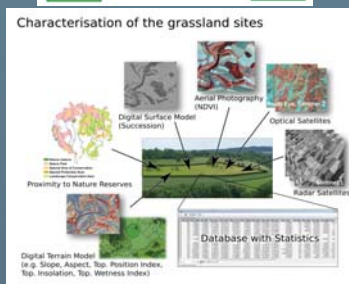
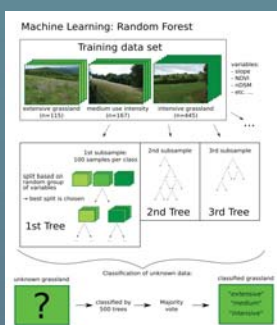
Who will benefit:

Nurseries, famers and their associations, food industry, enterprises, research/development institutes and universities.

Contact: Elvira Ferreira
E-mail: elvira.ferreira@iniav.pt



Supported by:



Start: 01/07/2016
End: 30/06/2018

Budget: 324.285 €

Operational Group:

Connecting isolated terrestrial habitats (Biodiversity taxis 2.0)

Vernetzung verinselter Biotope (Biodiversitätstaxis 2.0)

Practical problem

Sheep farming needs landscapes rich on ecotones and permanent access to connecting pathways as corridors. These basic conditions are decreasing more and more because of intensification of agriculture, abandonment of unprofitable sites and climate change.

Partners

Type:

Research institute

Name:

Rheinland-Pfalz AgroScience GmbH Institut für Agrarökologie (IfA)

Farmer association

Bundesverband Berufsschäfer e.V.

Sheep farmers

Schäferei Czerkus and other local sheep farmers

Project

Objectives:

Project objective is the geodata-based assessment and mapping of biodiverse sites for sheep farming and for routing approaches to connect the sites in the western "Eifel" region (GER). As a result, the economic situations of the sheep farmers will improve, as well as biodiversity.

Expected results:

Identification of potential sites for sheep farming by machine learning approaches and following consultation by owners. The real sites will be classified by multi-criteria analysis of influencing parameters (e.g. degree of scrub encroachment) in respect to their suitability for sheep farming. In a second step, the suitable sites will be connected by GIS-based routings.

Results so far/first lessons:

Characterization of the grassland sites (e.g. relief, proximity to biotopes). Classification by a machine learning approach: extensive grassland, grassland with medium use-intensity and intensive grassland - 727 grassland sites have been mapped in situ; 40.000 grassland sites were classified; > 6.000 were identified as potential grazing areas. Comparison of GIS-based routing algorithm.

Who will benefit:

There will be positive effects on the economic situation of sheep farmers and biodiversity will be improved.

Contact: Matthias Trapp
E-mail: matthias.trapp@agrosience.rlp.de



Supported by:



Colaborative Business R&TD Projects:

DEM@BIOFUMADOS – Biosmoked Demonstrator - Tradition vs Quality - production of Portuguese traditional cured and smoked Products

Dem@Biofumados - Demonstrador dos Biofumados - Tradição vs Qualidade - Produção de Enchidos e Fumados Tradicionais Portugueses

Practical problem

Validate the potential use of bacterial strains isolated from traditional cured smoked Portuguese products in the production of "safe" sausages, maintenance of the distinctive organoleptic characteristics of the smoked and cured products, produced by Minhofumeiro.

Partners

Type:

Agri enterprise
Research/ Teaching

Name:

Minhofumeiro - Enchidos e Fumados à Moda de Ponte Lima, Lda.
Escola Superior de Tecnologia e Gestão - Instituto Politécnico de Viana do Castelo; Escola Superior de Biotecnologia do Porto - Universidade Católica Portuguesa.

Project

Objectives:

Application of the results of a co-promotion project where various bacterial strains were applied to products, in combination with different Modified Atmosphere Packaging conditions, and effects in terms of microbiological safety and technological capacity for maintenance of the products were evaluated.

Expected results:

Here an autochthonous LAB strain which previously showed to be the best combination - antimicrobial capacity and maintenance of organoleptic characteristics of the tested products, will be used simultaneously with MAP. The technical and economic advantages of the tested preservation strategies in the production of traditional cured-smoked products will be demonstrated.

Results so far/first lessons:

Conditions of cultivation, drying and storage that allow the use of the strain as bioprotector have been identified. The spray application technology was defined, indicating how the spray will be placed in the products. A research was also carried out in the equipment market, necessary for the accomplishment of this activity, with the evaluation of technical data sheets.

Who will benefit:

Consumers;
Companies that use this kind of processes;
Educational institutions that see their research work recognized.

Start: January/2017
End: June/2018

Budget: 701.391 €

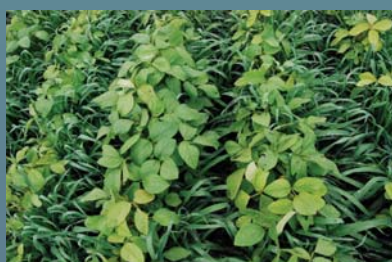


Contact: Manuela Vaz Velho
E-mail: mvazvelho@estg.ipv.pt



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727482



Start: June/2017
End: May/2022

Budget: 11.188.942 €

Horizon 2020:

DiverIMPACTS: Diversification through Rotation, Intercropping, Multiple cropping, Promoted with Actors and value-Chains Towards Sustainability

Practical problem

Temporal and spatial diversification of crops is a key driver for resource-efficient farming systems that can deliver food, feed, industrial products as well as ecosystem services. However, crop diversification is hindered by technical and socio-economic barriers at farm and value chains levels.

Partners

Name:

ACTA (FR); Agrosolutions (FR); AIDER (RO); APCA (FR); ASR (IT); Baertschi (CH); Barwy Zdrowia (PL); BioForum (BE); Bionext (NL); CRA-W (BE); CREA (IT); ERF (NL); ESA (FR); FiBL (CH); FIRAB (IT); HS (SE); INAGRO (BE); INRA (FR); IT (FR); IUNG-PIB (PL); LEAF (UK); LWK (DE); Mühle Rytz AG (CH); NSF (RO); ÖMKI (HU); ORC (UK); SoCoPro (BE); SLU (SE); TI (DE); UCL (BE); UvA (NL); WUR-FSE (NL); WUR-PAGV (NL); Wal.Agri SA (BE).

Project

Objectives:

The goal of DiverIMPACTS is to foster crop diversification through rotation, intercropping and multiple cropping, by demonstrating benefits for farmers, value chains and society and by providing rural actors with innovations that remove existing barriers at farm, value chain and territory levels.

Expected results:

- Higher arable land productivity
- Diversified and increased farmers' revenues
- Lower environmental impact and reduced use of pesticides, fertilisers, energy and water
- Improved delivery of ecosystem services
- Organisation of resource-efficient downstream value chains
- Market provision of food, feed and industrial products
- Increased awareness and knowledge/data exchanges among actors"

Results so far/first lessons:

DiverIMPACTS just started with the implementation of 25 multi-actor case studies and 10 long-term field experiments.

Project website: <http://www.diverimpacts.net/>

Who will benefit:

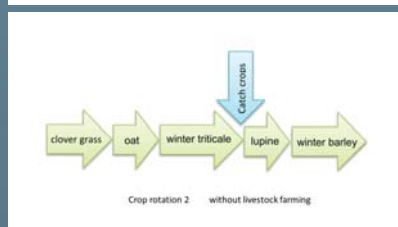
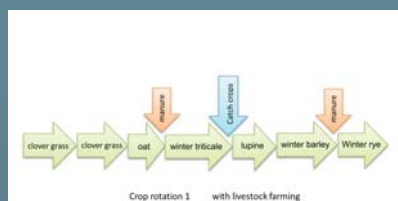
Rural actors involved in the development of diversified farming systems at territorial level.



Contact: Antoine Messéan
E-mail: antoine.messean@inra.fr



Supported by:



Start: 01/11/2015
End: 01/11/2019

Budget: 355.900 €

Operational Group: Humus formation by legumes *Leguminosen zum Humusaufbau*

Practical

problem

In eastern and southern Mecklenburg-Western Pomerania there are many farms with poor soil conditions and yearly precipitation below 550 mm. Under these conditions, the traditional crops for humus formation don't grow, hence alternative legumes need to be identified.

Partners

Type:

Advisory service

Name:

Centre of Agricultural Advice Service GmbH, Rostock

Research institute

Mecklenburg-Vorpommern Research Centre for Agriculture and Fisheries, Gültzow-Prüzen

Farmer

Ökologische Landwirte Acker- und Grünlandbewirtschaftungs GmbH Plöwen, Plöwen

Organic farmers organisation

Biopark e.V., Güstrow

Project

Objectives:

Elaborate recommendations for cultivation of clover grass and grain legumes and generate demonstration examples on dry and sandy soils (< 550 mm precipitation).

Expected results:

Design two crop rotations, with and without livestock farming, including alternative legumes.

Test the cultivation suitability of alternative legumes in field trials.

Demonstrate cultivation of alternative legumes on organic farms with dry and sandy soils in Mecklenburg - Western Pomerania.

Results so far/first lessons:

Although humus formation is a process that needs time, we already had some results on our field trials with cover grass: (i) in crop rotation with livestock farming, Alfalfa with Red Fescue and *Festulolium* have the highest yield and fastest soil coverage; (ii) in crop rotation without livestock farming, Common Melilot has the highest yield; however Black Medick is fast in soil coverage.

Who will benefit:

Farmers with dry and sandy soils.

Contact: Carolina Wegner
E-mail: c.wegner@lfa.mvnet.de

VALORIZATION OF THE TERRITORY AND USE OF ENDOGENOUS RESOURCES



Supported by:



Start: January/ 2012
End: December/ 2014

Budget: 801 691 €



PRODER:

Innovations and new technologies in the use of the *Arbutus* fruits
Inovação e novas tecnologias no aproveitamento do Medronho

Practical problem

There is little knowledge to cultivate arbutus (*Arbutus unedo* L.) in orchard. The need to supply the market with small fruits for consumption fresh or processed industrially encouraged the production of arbutus fruits.

Partners

Type:

Name:

Agri Enterprise

CEVRM – Centro de Excelência para a Valorização dos Recursos Mediterrânicos

Research/Teaching

INIAV – Instituto Nacional de Investigação Agrária e Veterinária I.P.
Instituto Politécnico de Beja, I.P.

Agri Enterprise
Farmers

Sugar Bloom, Lda
Paulo Reis

Project

Objectives:

Promote innovation to obtain new products, processes and technologies. Promote the transfer of scientific knowledge among the diverse stakeholders of the sector. Encourage and optimize the productive efficiency and the creation of new value-added products.

Expected results:

Establishment of ordered orchards and definition of agricultural practices appropriate to the arbutus. Creation of arbutus crop account. Conservation and transformation of arbutus fruit. Market tests and consumption promotion.

Results so far/first
lessons:

Increased installation of new areas with arbutus orchards. Better technical knowledge of the culture. Teaching of pruning techniques in the arbutus. Promotion of producers organizations. Increased supply of new products based on arbutus fruit.

Who will benefit:

Companies, entrepreneurs, producers and producer organizations.

VALORIZATION OF THE TERRITORY AND USE OF ENDOGENOUS RESOURCES



Supported by:



Start: April/2017
End: April/2021

Budget: 465.967 €



Operational Group:

Jarmelista Value - Territorial valorization by the genetic and identity preservation of the Jarmelista breed.

Valor Jarmelista -valorização territorial pela preservação da identidade e genética da raça Jarmelista.

Practical problem

No notability for meat production in sustainable and organic way and the importance of preserving regional biodiversity. Differentiation and high quality products stimulate rural activity in least-favoured regions and add regional value promoting sustainability and preserving breeding practices.

Partners

Type:

Name:

Research/Teaching

Instituto Politécnico da Guarda; Escola Agrária do Instituto Politécnico de Coimbra

Agri Association

Acriguarda – Association of Breeders of Ruminants in the Municipality of Guarda; Associação Qualifica, Origin.pt

Other company

Plataforma Jota – Business Company of Marketing and Communication; Moura & Sampaio Consultores Lda; ALSAI Empreendimentos Turísticos Hoteleiros Lda.

Project

Objectives:

Territory valorisation through Jarmelo meat, indigenous race, preserving its genetics, identity, production process. Highlight race identity as determining factor to biodiversity maintenance due to sustainable and organic production. Improve value chain from production to market offering new product

Expected results:

Increase meat production of 20%; meat characterisation of biochemical profile/rheological and nutrition; Evidence of territory biodiversity and sustainability due to beef production; new meat product; meat identity and quality standards; meat promotion as endogenous product enhancer of the economic activity and region recognition with impact in the final consumers

Results so far/first lessons:

So far we were able to characterize the effective (number of animals), farmers, production and nutrition management model, through a survey; analysed the average number of animals to slaughter so it is possible to define the sample for the physic-chemical analysis and for the development of maturation process model; created the image of the project and its marketing and communication positioning

Who will benefit:

Producers; services economic operators; Final consumers; Other associations for the preservation of native bovine breeds



VALORIZATION OF THE TERRITORY AND USE OF ENDOGENOUS RESOURCES

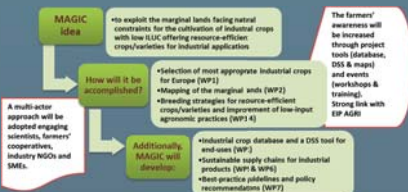


Coordinator
Represented countries



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727698



Start: July/2017
End: June/2021

Budget: 6.000.000 €



Horizon 2020:

MAGIC - Marginal land for growing industrial crops: Turning a burden into an opportunity

Practical problem

Marginal lands are not necessarily suitable for food production. But they could be exploited for the cultivation of industrial crops with low indirect land-use change offering resource-efficient crops/varieties for industrial applications

Partners

Names:

Centre For Renewable Energy Sources And Saving Fondation (Gr); Alma Mater Studiorum-Universita Di Bologna (It); Stichting Wageningen Research (NL); Wageningen University (NL); Universitaet Hohenheim (De); Institut National De La Recherche Agronomique (Fr); Ifeu - Institut Fur Energie Und Umweltforschung Heidelberg GmbH (De); Imperial College Of Science, Technology And Medicine (UK); Nova-Institut Fur Politische Und Okologische Innovation GmbH (De); Universita Degli Studi Di Catania (It); Universidade Nova De Lisboa (Pt); Faculdade De Ciencias E Tecnologiada Universidade Nova De Lisboa (Pt); Arkema France (Fr); Centro De Investigaciones Energeticas, Medioambientales Y Tecnologicas-Ciemat (Es); Cooperativas Agro-Alimentarias De Espana U De Coop Sociedad Cooperativa (Es); Krzyzaniak Michal (Pl) · Consiglio Per La Ricerca E Sperimentazione In Agricoltura (It); Instytut Wlokien Naturalnych I Roslin Zielarskich (Pl); B.T.G. Biomass Technology Group Bv (NL); Agricultural University Of Athens (Gr); Bios Agrosystems · Institute Of Bioenergy Crops And Sugar Beet National Academy Of Agrarian Sciences Of Ukraine (Ua); Latvijas Valsts Mezzinatnes Instituts Silava (Lv); Internationales Institut Fuer Angewandte Systemanalyse (At); Novabiom (Fr); Vandinter Semo Bv (NL); Bios Agrosystems Sa (Gr)

Project

Objectives:

Select the most appropriate industrial crops for Europe's marginal lands:

- Mapping of marginal land
- Breeding strategies for resource-efficient crops and improvement of low-input agronomic practices
- Building sustainable supply chains for industrial products
- Best-practice guidelines and policy recommendations

Expected results:

MAGIC will advance innovation in industrial crops research in particular in breeding, low-input practices, harvesting and logistics. It will improve databases and tools for mapping marginal land in Europe, upgrade farmers' awareness on alternative crops for their marginal lands and provide end-users with information on quantity and quality characteristics of the most promising crops for several industrial uses.

Results so far/first lessons:

The project has just started.

Who will benefit:

Farmers, who will be able to decide which alternative crops can grow in their marginal land, and end-users (industrials)

Contact: Ana Luisa Fernando
E-mail: ala@fct.unl.pt



AGRI INNOVATION SUMMIT 2017
More information: www.aislisbon2017.com



Supported by:



Operational Group:

PROVITERRE - Guidelines for better agricultural practices for soil conservation in the main hilly vine areas, in Emilia-Romagna

PRO - VITERRE: Linee guida delle buone pratiche agronomiche per la conservazione dei suoli nei principali ambienti vitivinicoli della collina emiliano-romagnola

Practical problem

The grass in the inter row is optimal in wet seasons for soil preservation from erosion. In summer, it can affect crops' water stress, resulting in lower production. It is fundamental to analyze how, when and in which soils there's the need to adopt this technique.

Partners

Type:

Research institutes

Name:

I.TER - Territorial Investigations

Università Cattolica del Sacro Cuore

Farms

Tenuta Pernice Società Agricola; Azienda Agricola La Tosa di Pizzamiglio Ferruccio e Stefano Società Semplice; Azienda Agricola Baraccone di Burgazzi Andreana; San Mamante Società Agricola; I Perinelli Società Cooperativa Agricola Sociale; Eredi Azienda Agricola Conte Otto Barattieri di San Pietro S.S. Società Agricola; Azienda Agricola Il Ghizzo di Anselmi Adele; Res Uvae Società Agricola a Responsabilità Limitata; La Sabbiona Società Agricola Piacentini Emanuel

Project

Objectives:

Elaboration of guidelines on good soil management techniques in order to match the environmental benefits, such as maintaining soil organic matter and promote soil preservation from erosion, associated to the improvement on the level of production, both in qualitative and quantitative terms.

Expected results:

Set up monitoring for objective data to understand the effect of vineyard soil management techniques on organic matter content, soil conservation from erosion and on the production in terms of quality and quantity. Involve winemakers and consultants in sharing data and guidelines.

Results so far/first lessons:

In a representative farm in hilly areas in Emilia-Romagna, 5 different agricultural practices are being tested between vine lines ("spontaneous grassing", "total work", "alternate rows total processing and spontaneous grassing" and "cover crop"), while monitoring the soil organic matter content and the effect on erosion and on the production performance of the vineyard.

Who will benefit:

The main beneficiaries will be vine growers farming hilly areas. The guidelines will be disseminated by agricultural advisers.



Start: 01/04/2016
End: 31/03/2019

Budget: 189.408 €

Contact: Carla Scotti
E-mail: scotti@pedologia.net



Supported by:



Fresh wild edible mushroom storage in modified atmosphere package



Wild edible mushroom dehydration by convection drying

Start: February/ 2014
End: June/ 2016

Budget: 119 502 €

PRODER

Wild Edible Mushrooms Processing Technologies

Tecnologias de Investigação Industrial aplicadas à Transformação e Comercialização de Cogumelos Silvestres

Practical Problem

Wild edible mushrooms are characterized by their seasonality and perishability. The distribution and marketing as fresh products is difficult. It is essential to develop appropriated packages to maintain product stability when commercialized in fresh and processing technologies to increase storage.

Partners

Type:

Name:

Other Association

CEVRM - Centro de Excelência para a Valorização dos Recursos Mediterrânicos, S.A.

Research

INIAV - Instituto Nacional de Investigação Agrária e Veterinária, I.P.

Project

Objectives:

Promote the relationship between scientific and technological knowledge to develop processing technologies (minimal processing and drying) and definition of packages and labels appellative and informative. Incorporation of new high quality products into the productive process of the company (CEVRM).

Expected results:

Transference of technological knowledge from INIAV researchers to CEVRM technicians. Creation of added value products of edible wild mushrooms with new methodologies and processing techniques. Publication of "Manual of Good Practices for the Implementation of the HACCP System". Participation in Wild Mushroom Fair, Workshops and in IX Iberian Symposium of Maturation and Post Harvest.

Results so far/first lessons:

The results had been encouraging due to the knowledge of new cold chains in food technologies, which have become possible, the storage of fresh mushroom packages with extended shelf-life. Since the final products had high quality and appropriated conditions, the use of minimal processing or drying seems to be the best methods for edible wild mushrooms storage and commercialization.

Who will benefit:

Local enterprises and mushroom pickers. Small and medium-sized enterprises of food industries.

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

Sustainable management





Horizon 2020: AFINET: Agroforestry Innovation Networks



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°727872



Start: January/2017
End: December/2019

Budget: 1.999.987 €

Practical problem

AFINET aims to solve the lack of agroforestry (AF) knowledge exchange between farmers, foresters, researchers, advisers and government services and to foster the correct implementation of AF practices, helping to increase farm profitability and environmental benefits.

Partners

Names:

USC - University of Santiago de Compostela - Coordinator (ES); ORC - Organic Research Centre (UK); EV ILVO - Institute for Agricultural and Fisheries Research (BE); ISA - Instituto Superior de Agronomia (PT); IUNG-PIB - Institute of Soil Science and Plant Cultivation (PL); INAGRO (BE); SoE-KKK - University of West Hungary Cooperational Research Centre Nonprofit (HU); ABACUS Agriculture (UK); IBAF-CNR - Istituto di Biologia Agro-ambientale e Forestale - Consiglio Nazionale delle Ricerche (IT); EURAF - European Agroforestry Federation; AFAF - Association Française d'Agroforesterie (FR); FEUGA - Fundación Empresa-Universidad Gallega (ES); EFI - European Forest Institute (FI).

Project

Objectives:

Support Agroforestry innovation and enhance knowledge transfer through:

- "Regional Agroforestry Innovation Networks" (RAINs), working groups where farmers, foresters, researchers, advisers and government services come together.
- The creation of a "Knowledge Cloud", a user-friendly on-line repository.

Expected results:

- To address the knowledge gaps and other challenges facing the Agroforestry sector, providing greater access to research findings and practices.
- To support the implementation of innovations identified by the RAINs members, promoting new operational groups.
- Influencing EU, national and regional policies, encouraging the participation of policy-makers in the RAINs and communicating the project outcome.

Results so far/first lessons:

9 RAINs have been created: Spain, UK, Belgium, Portugal, Poland, Hungary, Italy, France and Finland. Each of them has focused on a specific theme, based on the interests of local stakeholders. First RAINs meetings have been held between July and Sept. First communication and dissemination activities and on-line presence have been developed.

Project website: <http://www.agroforestry.eu/afinet>

Who will benefit:

Practitioners who are expected to implement the solutions identified and researchers who access knowledge from the field.



Contact: Rosa Mosquera
E-mail: mrosa.mosquera.losada@usc.es



Supported by:



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

Budget: 334.957 €

Operational Group:

Les Arbonovateurs, for resilience in fruit growing and fruit growers proud of their craft

Les Arbonovateurs

Practical

problem

Fruit growers have two main problems.

Water management of orchards in the territory is a strong issue for the different players on a deficit water catchment area, particularly in dry periods. On the other hand, the issue of pesticides in the air requires solutions that can radically change the current situation.

Partners

Type:

Farmers association

Research institute

Farmers organisation

Name:

GIEE Arbonovateur

Centre d'Expérimentation Fruits et Légumes

Chambre d'Agriculture de Tarn et Garonne

Project

Objectives:

Improve water management in orchards, analysing different irrigation systems and designing decision tools.

Create a method for adapting the spray volume to the volume of the tree, so that the quantity of pesticides in the air decreases.

Expected results:

Improved water management through the choice of more adequate irrigation systems and by enhancing their efficiency, thus adjusting the water quantity to the needs.

Development of a new method of adaptation of the spray volume to the volume of the tree, which limits the excesses of pesticides and the impact on the environment.

Results so far/first lessons:

The water savings in optimized management are around 30%, i.e. 1000 m3 / ha on average for several years in apples. These data are being verified at CEFEL.

Who will benefit:

Fruits growers and the environment in general.

Contact: Jean-François Larrieu
E-mail: jf.larrieu@agri82.fr

SUSTAINABLE MANAGEMENT



Supported by:



Start: January/ 2012
End: March/ 2015

Budget: 413 397 €

PRODER:

Effects of soil management on productivity and sustainability of grape vineyard system – GreenVitis

Efeitos da gestão do solo na produtividade e sustentabilidade do sistema vitivinícola duriense – Green Vitis

Practical problem

The agriculture is considered responsible for about 30% of CO₂, N₂O and CH₄ emissions (GHGs), which is a major environmental problem. The improvement of soil management in permanent crops can itself decrease those emissions, among other benefits.

Partners

Type:

Agri enterprise
Research/Teaching
Research /Teaching
Association

Name:

Quinta do Vallado – Sociedade Agrícola, Lda
Universidade de Trás-os-Montes e Alto Douro
Instituto Politécnico de Bragança
Associação para o Desenvolvimento da Viticultura Duriense

Project

Objectives:

To evaluate the effect of different soil management practices (conventional tillage, cover crop with spontaneous flora and cover crop seeded mixture) in a vineyard of the Douro Region, to the management sustainability of the system

Expected results:

It is expected to improve the organic matter, soil carbon and soil structure, decreasing soil emissions and footprint, microclimate, ecophysiology, nutrient recycling, decreasing soil erosion, water use, weed and disease management, biodiversity, yield and quality, in order to improve sustainable management of the wine-growing system

Results so far/first lessons:

Reduction of CO₂ emissions by decreasing the conventional practices of soil mobilization (intensive tillage); dissemination of soil management practices to farmers, associations and academics through seminars and conferences

Who will benefit:

Vine-growers and its associations, technicians, researchers, government bodies and the civil society in general



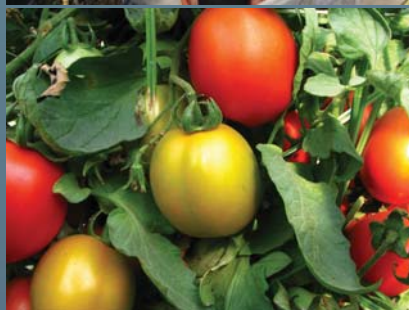
Horizon 2020:

TOMRES: a novel and integrated approach to increase multiple and combined stress tolerance in plants using tomato as a model



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 727929



Start: June/2017
End: December/2020

Budget: 5.996.175 €

Practical problem

Water and fertilizer availability is decreasing, while the demand for these valuable resources increases. Soil leaching of N and P has a negative impact on water quality. Despite considerable effort, tomato cultivars with significant drought tolerance and/or superior Nutrient Use Efficiency (NUE) have not been reported.

Partners

Names:

Uni Torino (IT); Agricultural Uni Athens (GR); Agroilla (ES); Casella Macchine Agricole Srl (IT); CONFAGRICOLTURA (IT); Edypro Fertilizantes, S.L. (ES); EPSO (BE); Gaia Epicheirein Anonymi Etairaia Psifiakon Ypiresion (GR); Gautier Semences SAS (FR); Institut Jozef Stefan (SI); INRA (FR); Neurather Gärtner GbR (DE); Novareckon Srl (IT); Raffaele Tamburrino (IT); Research and Development Institute for Horticultural Products Horting (RO); Rheinische Friedrich-Wilhelms-Uni Bonn (DE); STC Research Foundation (UK); Strigolab Srl (IT); Technion – Israel Institute of Technology (IL); The Hebrew University of Jerusalem (IL); The James Hutton Institute (UK); Uni of Nottingham (UK); Uni Milano (IT); Uni Napoli Federico II (IT); Uni de Les Illes Balears (ES).

Project

Objectives:

The overall goal of TOMRES is to enhance resilience to combined water and nutrient stress and to maximize water and nutrient use efficiency by designing and testing in the field novel combinations of genotypes and management practices reducing the environmental impact of agricultural activities.

Expected results:

Novel traits will be identified and rootstocks and scions displaying increased Water Use Efficiency and Nutrient Use Efficiency, while retaining fruit quality and yield, will be selected. Crop management strategies will be optimized, environmental and socio-economic impact will be assessed, and a Decision Support System will assist field testing of genotype x management practices, and transfer to farmers.

Results so far/first lessons:

First-year testing of tomato accessions for improved water and nutrient use efficiency is now underway.

Who will benefit:

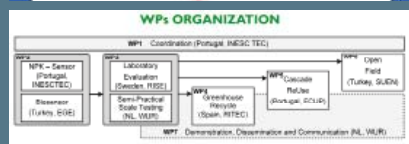
Consumers, organic, low-input and conventional farmers, extension services, breeders, companies, and policymakers.

TOMRES

Contact: Andrea SCHUBERT
E-mail: andrea.schubert@unito.it



Supported by:



Start: April/2017
End: March/2020

Budget: 1.080.448 €

Cooperation supported by FCT, I.P.:

Integrated monitoring and control of water, nutrients and plant protection products towards a sustainable agricultural sector.

Practical problem

With selective sensors for nutrients and PPP available, the water quality can be more easily monitored and appropriate precautions can be taken to minimize leakages and optimize water quality and thus durable use.

Partners

Type:

Name:

Research/ Teaching

INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência; FCUP - Faculdade de Ciências da Universidade do Porto; WUR - Universidade de Wageningen; EGE UNIVERSITY; RISE; SUEN

Other company

EGE LIFE SCIENCES; RITEC

Project

Objectives:

Development and evaluation of innovative optical fiber sensors for NPK nutrients;
Development and evaluation of innovative sensors for simple, rapid and sensitive monitoring of PPP;
Development of participatory policy models for agricultural input optimization and water quality monitoring.

Expected results:

Better use and protection of European natural resources; Improvement of environmental water quality and protection of human health;
Reducing operational and energy cost;
Industry: boosting the European water technology sector;
Contribution to expand Water RDI.

Results so far/first lessons:

The project has started in late April 2017 and it is in an early state of development. The most important achievement so far is the definition of two common pesticides for all partner's countries, to which biosensors will be developed. Moreover, some visits to practical greenhouses and open field crops were performed, to get knowledge on fertigation equipments and drip irrigation.

Who will benefit:

Farmers, sensor market, agricultural organisations, food consumers.

Contact: José Boaventura-Cunha
E-mail: jose.boaventura@inesctec.pt



Supported by:


 UNÃO EUROPEIA
 Fundo Europeu
 de Desenvolvimento Regional

Colaborative Business R&TD Projects:

ModelMeat – A model for the optimisation of environmental and nutritional performance in extensive animal production

ModelMeat - Modelo de Otimização de Ambiente e Qualidade do Produto para Serviços de Apoio à Competitividade dos Agentes da Fileira da Produção Animal Extensiva

Practical problem

Extensive meat production systems have several environmental benefits that farmers are unable to leverage in the market due to the absence of a decision support system to quantify and optimise their environmental, economic and nutritional advantages.

Partners

Type:

Agri enterprise
 Research/Teaching

Name:

Terraprima – Serviços Ambientais, Sociedade Unipessoal Lda.
 Universidade Católica Portuguesa – Escola Superior de Biotecnologia

Project

Objectives:

The goal of Project ModelMeat is to develop a decision support service for integrated sustainability management in the extensive livestock production sector, starting with a sample of 1,000 farmers in Portugal. A software tool will be developed with the integrated implementation of ModelMeat.

Expected results:

Tool to estimate grazing feed intake using remote sensing (drone flights, satellite data);
 A Dynamic Energy Budget (DEB) model of animals;
 Environmental (greenhouse gas) and economic characterisation of management practices using parametric Life Cycle Assessment (LCA);
 Estimation of nutritional, health and sensory features of extensive meat, and their economic valuation by consumers.

Results so far/first lessons:

ModelMeat established a partnership with an initial group of farmers that were surveyed to obtain a list of relevant inputs and management practices. An online system was developed for data collection. Data was collected for the environmental calculation tool. Grazing exclusion cages were installed in all grazing land in these farms to estimate yield. The DEB model is currently being built.

Who will benefit:

ModelMeat will help farmers test/optimize extensive production (environmentally and economically, and product quality).

Start: October/2016
 End: September/2019

Budget: 885.386 €

Contact: Tiago Domingos
 E-mail: tiago.domingos@terraprima.pt



Horizon 2020:

OK-Net Arable: Organic Knowledge Network Arable



Practical problem

Concerns have been raised on the productivity of organics compared with conventional farming. But evidence shows that farmers with more experience have higher yields. Exchange of knowledge among farmers, advisers and scientists is hence crucial to improve yields in organic farming.

Partners

Names:

IFOAM EU (SE); FiBL Switzerland (CH); Organic Research Centre (UK); Bioland Beratung (DE); International Centre for Research in Organic Food Systems (ICROFS)(DK); Associazione Italiana per l'Agricoltura Biologica (AIAB)(IT); European Forum for Agricultural and Rural Advisory Services (EUFRAS)(LV); CIHEAM-IAMB (IT); FiBL Germany (DE); FiBL Austria (AT); Ökologische Landwirtschaftsforschung (ÖMKI) (HU); ConMarcheBio (IT); Eesti Mahepõllumajanduse Sihtasutus (EE); BioForum Vlaanderen (BE); Institut Technique de l'Agriculture Biologique (FR); Danish Agriculture & Food Council (DK); Bioselena (BG)

Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 652654



Start: March /2015
End: February /2018

Budget: 2.159.633 €

Project

Objectives:

The project will synthesize available knowledge about organic arable farming and identify the best tools for exchanging this. The tools will be made available on an online platform (farmknowledge.org). The project will also create opportunities for farmers to exchange experiences face-to-face.

Expected results:

- Easily understandable end-user material based on latest scientific and practical knowledge of organic arable farming
- Online platform offering evidence-based end-user material as well as facilitating farmer-to-farmer learning (farmknowledge.org)
- European network of farmers for the exchange of experiences and knowledge
- Higher productivity and more stable yields in organic farming

Results so far/first lessons:

OK-Net Arable has launched a knowledge platform (farmknowledge.org), which farmers can use to find practical organic solutions, and at the same time discuss how they work on the field. OK-Net Arable has also brought together the challenges identified by participating farmers. Data show a wide range of crop yields. This indicates there is need, but also a clear possibility to improve farm yields. Project website: <http://www.ok-net-arable.eu/>

Who will benefit:

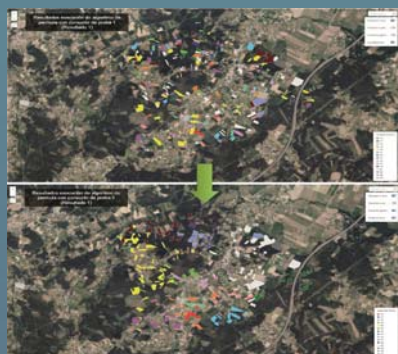
OK-Net Arable targets less and more experienced organic farmers, as well as farm advisers.



Contact: Bram Moeskops
E-mail: bram.moeskops@ifoam-eu.org



Supported by:



Start: 21/07/2017
End: 31/10/2018

Budget: 102.992 €

Operational Group:

Software to improve land management in livestock cooperatives

Deseño dunha aplicación informática para a mellora da xestión de terras nas cooperativas gandeiras

Practical

problem

Territorial structure of Galician livestock farms is very fragmented and their plots usually have small dimensions and a high dispersion. These circumstances hinder the economic efficiency and environmental sustainability of farms, requiring a higher amount of inputs to maintain them.

Partners

Type:

Name:

Local Action Group
LEADER

Association for Rural Development Mariñas-Betanzos

Dairy cooperatives

Cusoviamé; Os Irmandiños

Research institutes

University of Santiago Compostela, Laboratorio do Territorio; University of A Coruña, Centro de Arquitectura de Computadores; Mabegondo Agricultural Research Centre

State organisation

Galician Institute of Food Quality (INGACAL)

Project

Objectives:

Develop a computer software that, depending on different initial situations, proposes the reorganization and grouping of the plots belonging to different farms.

Improve the territorial base of farms and thus facilitate the production of fodder, as the basis for animal feed.

Expected results:

The creation and dissemination of the software will allow the reallocation of plots among farmers (swaps of land use), while their farms keep the same size and land ownership doesn't change.

The plots that each farmer manages become closer to each other, reducing production costs and improving agricultural sustainability.

Results so far/first lessons:

The first version of the software was tested with livestock farms from several pilot areas. Its usefulness in the reduction of distances and the creation of management plots with bigger size was confirmed. The need to incorporate changes in several factors (areas or valuation of plots according to their logistic and agronomic aptitude) was also identified.

Who will benefit:

Farms (79.900 in Galicia), professionals in the sector, public administration and stakeholders in general.

Contact: Jorge Blanco
E-mail: xerencia@marinasbetanzos.gal



Supported by:



Start: November/ 2017
End: December/ 2020

Budget: 232.319 €

Operational Group:

The decline of cork oak forest (montado) in Alentejo.

Declínio do Montado no Alentejo.

Practical problem

The mortality of oak trees is a serious threat to the preservation of the Montado system. *Phytophthora cinnamomi* is considered the main reason for the weakening and death of cork and holm oaks, and may be present in 30-80% of the decline areas, both in Portugal and in the south of Spain.

Partners

Type:

Agri association

Agri enterprise

Farmer

Research/ Teaching

Name:

ACPA - Associação dos Criadores do Porco Alentejano; ANCPA - Associação Nacional dos Criadores do Porco Alentejano

Montaraz -Transformação Artesanal de Porco Alentejano Lda.; Barrancarnes, Transformação Artesanal, SA

Manuel Anemécio Lourenço; Duarte Nuno Salvador Simões

INIAV - Instituto Nacional de Investigação Agrária e Veterinária, IP.; ICNF - Instituto da Conservação da Natureza e das Florestas, IP

Project

Objectives:

To evaluate the potential of main herbaceous crops used as pastures in Montados, to biologically control *P. cinnamomi*. The aim is to obtain plant mixtures with allelopathic effect to reduce *P. cinnamomi* population. We intend also to find cost effective measures that can be applied on a wide scale.

Expected results:

List of plants host/no host to *Phytophthora* and list of plants with potential allelopathic effect to the pathogen; introduction of enriched pastures with allelopathic activity to reduce the pathogen. We aim benefit the entire soil-tree-environment system and reduce *P. cinnamomi* population and consequently the infection.

Results so far/first lessons:

The selection of allelopathic plants began in 2014. We have already some relevant species with suppressive effect on *P. cinnamomi* which will serve as the starting point for implementing the proposal. The knowledge of herbaceous species resistance to the pathogen, both from natural vegetation and used as pastures must also be assessed for their ability to reduce soil inoculum.

Who will benefit:

The main beneficiaries are forest technicians, agricultural and producers associations, landowners and industry.

Contact: Ana Cristina M. Marcelino
E-mail: cristina.moreira@iniav.pt





Supported by:



Start: May/ 2014
End: December/ 2017

Budget: 200.000 €

PRODER:

Yellow Corn: Intensive Farming and Biodiversity

Milho Amarelo: agricultura intensiva e biodiversidade

Practical problem

Evermore consumers pay attention to the sustainability of the products they buy. Given the intensity demand in agricultural, especially in the cereals sector, such as corn, the biodiversity is decreasing and the inputs increasing. Increasing inputs is not a viable nor sustainable solution anymore.

Partners

Type:

Agri Association
Consultant
Agri Enterprise
Research/Teaching

Name:

Agrotejo
Consulai - Consultadoria Agro Industrial
Quinta da Cholda
Instituto Superior de Agronomia

Project

Objectives:

In this project, the aim was to convert some parts of the land that weren't productive like the pivot corners and the road bands in ecological focus areas so that these areas would serve as home to the autochthonous organisms, increasing the biodiversity and the resilience of the culture.

Expected results:

Enrich the marginal areas of the farm in diversity both in plant and in organisms with ecological interest;
Identify and development of ecological focus areas indicators; Learn the value that these new ecosystems bring to the environment;
Study different types of crops that could benefit the quality of soil and its biodiversity;
Increase the resilience of agricultural activity to climate change.

Results so far/first lessons:

Difficulties in defining ecological foci areas and quantifying their relative importance from an economic or environmental point of view

Who will benefit:

Corn producers with an area of 100 ha or more



Supported by:



Start: 19/03/2015
End: 31/12/2018

Budget: 470 000 €

Operational Group:

Zero herbicides in Mediterranean perennial crops

Zéro herbicides en cultures pérennes méditerranéennes

Practical problem

Herbicides are on the spot, and farmers are looking for herbicides-free systems. There is the need for an innovative management system, which will allow to reduce the use of herbicides, and this project will be testing a system based on under row cover cropping.

Partners

Type:

State organisation

Name:

Institut Français de la Vigne et du Vin

Farmers organisations

Chambre d'Agriculture de l'Hérault; Chambre d'Agriculture du Gard; Chambre d'Agriculture des Pyrénées Orientales; Chambre d'Agriculture de l'Aude

Research institutes

Centre Expérimental Horticole; Station d'Expérimentation Régionale pour les Fruits et Légumes

Project

Objectives:

The aim is to evaluate a weed management system based on under row cover cropping. Experimental fields were set to evaluate the agronomic impact of cover crops and to screen species that could fit an under-row setting. In addition, demonstration sites will be disseminating the results to farmers.

Expected results:

Zero Herbicides system will save time and money to farmers, while being environmentally friendly. Several outputs are planned: (i) a technical guide for implementation and management of under row cover cropping systems, (ii) videos and technical articles will be published online and (iii) demonstration sites will be set to promote the results to farmers.

Results so far/first lessons:

A set of cover crop species has already been selected. Field tests have shown that under row cover cropping was effective to protect the soil and needs less interventions. Nevertheless, in some cases we have observed lower yields due to competitiveness between cover crop and main crop. This could be a limitation to the adoption of cover crop based systems by farmers, in the Mediterranean area.

Who will benefit:

Mainly organic farmers, in steep and/or stoned vineyards where mechanical weeding is very difficult.



AGRICULTURE 4.0 AND RURAL DEVELOPMENT

Digital entrepreneurship in rural areas





Supported by:



Innovation Project :

ADELAIDE.FARM - online market for small farmers to connect with the urban consumers.

Adelaide.Farm - a plataforma que liga produtores a consumidores com laços sociais e ambientais.

Practical problem

Small farmers have strong difficulties on selling, at fair prices, their products. They are stuck at prices defined by intermediaries. This leads them to the abandonment of the fields, increasing the rural depopulation. They need a direct connection with the consumers.

Partners

Type:

Other enterprise
Agri enterprise
Research/Teaching

Name:

Guess What PR; Apps4Mobility
EDIA, SA
Instituto Politécnico de Beja

Project

Objectives:

Create a online market for small farmers to connect with the urban consumers. The consumers can buy quality products (from a responsible agriculture) and even have an online vegetable garden, and the farmers can sell their products at fair prices, increasing their income.

Expected results:

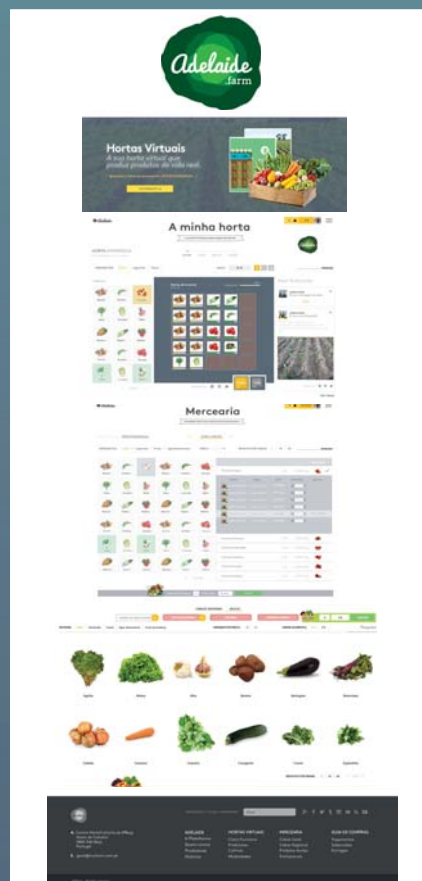
Our goal it to achieve a average income, for farmer, of about 900€/month and to have about 200 small farmers and about 800 consumers at the Adelaide.Farm at 2019. We want to achieve until the end of 2019 a total income of 25.000€/month We also expect to star our internationalization at 2019.

Results so far/first lessons:

We already have 82 small farmers and about 250 consumers. Our first lesson is that it isn't easy to change the traditional commercialization method of the small farmers to this new one. We have a lot of consumers waiting for the products of the small farmers but we still don't have the diversity and the quantities that we wish. It's a great challenge to bring the small farmers to this new concept.

Who will benefit:

Small Farmer and urban consumers.



Start: June/2016
Endless

Budget: 150.000 €

Contact: Alice Teixeira
E-mail: alice.teixeira@myfarm.com.pt



Supported by:



Start: 15/02/2013
End: 28/02/2014

Budget: 896.000 DKK

LAG project: ASNET Mobile Broadband

Practical problem

As of 2013 citizens living at the Asnaes peninsular outside Kalundborg, Denmark had no access to broadband or mobile connectivity. The bandwidth through fixed line telephones at the time was 0,512Mb/s down and 0,123Mb/s up at its best.

Partners

Type:	Name:
Association	Asnaes Citizens Association
LAG	LAG Nordvestsjælland (LEADER)
Enterprises	3 Mobil Danmark

Project

Objectives:

To establish a wireless broadband 4G LTE network with antennas mounted on a 80 meters tall windmill. Provide fast and reliable mobile broadband to citizens, farmers, schoolchildren, students and businesses at Asnaes peninsular a low density populated area.

Expected results:

To reach a 95 % coverage at speeds up to 40/20 Mbits/s down/up.
To encourage people to settle at Asnaes.
To encourage young people to study abroad and come back to Asnaes to settle with their families.
To provide broadband for existing and new businesses to grow.

Results so far/first lessons:

Results so far:
As of 2017 speeds are 130/130 Mbits/s.
95% coverage of Asneas peninsula.
Reliable and stable connection. 240 subscribers.
Lessons:
Quality of connectivity depends on distance from antennas, obstacles such as forests and terrain.
External house antennas and network repeaters needed in some areas.
Settlement has increased.
House up for sale are sold much faster than before ASNET was launched.

Who will benefit:

Citizens, young and old. Pupils, students and employees working at home. Local businesses and visitors.

Contact: Jes Jessen
E-mail: jes@sales-lab.dk



Supported by:



Start: October/2011
End: April/2013

Budget: 91.873 €

Innovation Project:

EPAM PROJECT – Business development in the aromatic and medicinal plant sector in Portugal.

EPAM - Empreender na Fileira as Plantas Aromáticas e Medicinais - Desenvolvimento de negócios no setor de plantas aromáticas e medicinais em Portugal.

Practical problem

Global challenges an emerging economic sector faces, like:

- lack of information about the sector and the business;
- limited technical knowledge available;
- little significant (horizontal and vertical) relationship between stakeholders within the sector ;
- difficulties in accessing (creating) markets;
- lack of political relevance.

Partners

Type:

Agri Association

Name:

ADCMoura – Associação para o Desenvolvimento do Concelho de Moura;
ANIMAR – Associação Portuguesa de Desenvolvimento Local

Project

Objectives:

Foster the development of a national network related to the production and sale of aromatic and medicinal plants; Support entrepreneurship within the sector and develop the capacity of its agents; Increase and disseminate knowledge within the sector; Build on experience and prepare policy proposals

Expected results:

KNOWLEDGE: benchmarking of best practices | map of producers and other stakeholders in Portugal

RELATIONSHIP: national and local meetings | collaborative initiatives within the sector

DISSEMINATION: gather/build technical information | specialised training

POTENTIAL: cooperate with public sector | marketing action (cooperation, domestic and international promotion, differentiation)

Results so far/first lessons:

All proposed results were accomplished. EPAM continued to develop after the end of this project. New projects enabled the consolidation of the process. The network principles, methodologies and tools designed for the project help to create a collaborative and innovation-driven environment within an emerging value chain. New opportunities arise for EPAM to scale up (+actions, +territory, other sectors) and to scale deep (sustainability). www.epam.pt

Who will benefit:

All stakeholders in the medicinal and aromatic plants sector: producers, industry, researchers, support technicians, education and training agents, consumers...

Stakeholders in other emerging economic sectors.

Contact: Maria Clara Lourenço
E-mail: clara.lourenco@adcmoura.pt



AGRI INNOVATION SUMMIT 2017

More information: www.aislisbon2017.com





Supported by:



Start: August/2007
End: November/2011

Budget: 64.500 €

Leader Transnational Cooperation Project:

Best practices for the creation and promotion of Geoparks

AROUCA GEOPARK – Implementação de uma estratégia de desenvolvimento

Practical problem

The need to attract tourists and visitors to an underdeveloped region, by the use and promotion of endogenous resources, focusing on sustainability.

Partners

Type:

LAG association

Other association

Public / Local Authority

Research/ Teaching

Name:

ADRMAG - Associação de Desenvolvimento Rural Integrado das Serras do Montemuro, Arada e Gralheira

AGA – Associação Geoparque Arouca (44 public and private partners)

Lesvos Geopark; Idrijsko Agencija; North Pennines Geopark

UTAD – Universidade de Trás os Montes e Alto Douro; Universidade do Minho

Project

Objectives:

Identify good practices and exchange experiences in the implementation and management of Geoparks;

Transmitting and promoting good practices between local agents;

Developing IT Tools for tourism management in rural areas;

Diversify the touristic offer in a rural territory;

Stimulate local economy.

Expected results:

Involvement of the local population on a common objective;

Increase the incoming of tourists and visitors in 50% in 5 years;

Import and export good practices between local agents (innovation of tourism products, partnerships, routes, tourist packages);

Geopark TV.

Results so far/first lessons:

Involvement of all local operators and population;

Geopark Arouca with the UNESCO label;

15 new geosites;

New generations know about and promote Geopark Arouca;

Cooperation projects weakened but local partnership strengthened.

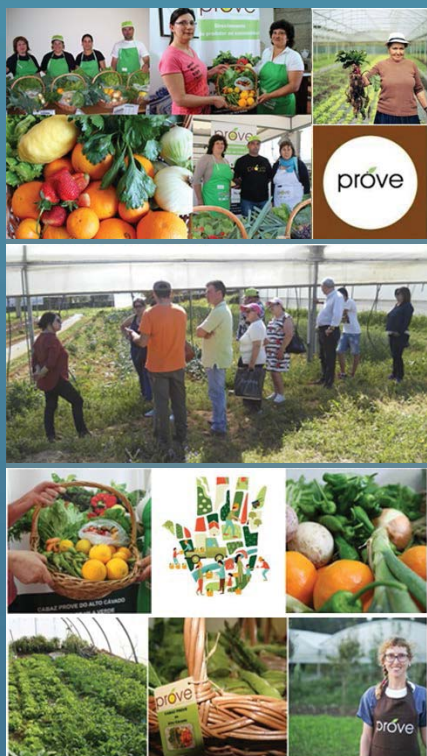
Who will benefit:

Tourist operators; Hotels and rural guest houses; Restaurants; Local and Regional Economy

Contact: João Carlos Pinho
E-mail: jcarlos@adrimag.com.pt



Supported by:



Start: January/2010
End: December/2013

Budget: 500.693 €

Leader Inter-territorial Cooperation Project:

PROVE - Promote and sell agricultural products in short supply chain.

PROVE - Promover e vender produtos agrícolas em cadeias curtas de abastecimento alimentar.

Practical problem

Difficulties in marketing and disposing of agricultural products to consumers.
Difficulties of communication and relationship between small farmers and final consumers.

Partners

Type:

LAG Association

Name:

ADREPES - Associação para o Desenvolvimento Rural da Península de Setúbal; TAGUS RI - Associação para o Desenvolvimento Integrado do Ribatejo Interior; MONTE - ACE Desenvolvimento Alentejo Central; ADRIMINHO - Associação de Desenvolvimento Rural Integrado do Vale do Minho; DOLMEN - Cooperativa de Formação, Educação e Desenvolvimento do Baixo Tâmega, CRL; ADRITEM - Associação de Desenvolvimento Regional Integrado das Terras de Santa Maria; ADERSOUSA - Associação de Desenvolvimento Rural das Terras de Sousa; ADER AL - Associação para o Desenvolvimento Rural do Norte Alentejo; ADIRN - Associação para o Desenvolvimento Integrado do Ribatejo Norte; ALENTEJO XXI - Associação de Desenvolvimento Integrado do Meio Rural; ATAHCA - Associação de Desenvolvimento das Terras Altas do Homem, Cávado e Ave; CHARNECA - Associação para a Promoção Rural da Charneca Ribatejana; DESTEQUE - Associação para o Desenvolvimento da Terra Quente; IN LOCO - Associação IN LOCO; LEADEROESTE - Leader Oeste - Associação de Desenvolvimento Rural; PRO-RAIA Associação de Desenvolvimento Integrado da Raia Centro Norte

Project

Objectives:

Stimulate local sustainable development processes
Promote the local entrepreneurship of small producers
Stimulate new ways of short marketing chains, between small producers and consumers
Establish networks for the innovation of products and / or modes of production and marketing
Make full and effective use of the internet and ICT

Expected results:

Creation the G-PROVE on-line ordering system for home delivery of fresh local produce
Creation of 50 distribution places to market PROVE produce
Involving 100 participating small farmers
Involve 2000 participating consumers
Selling each week 13 tons of horticultural produce

Results so far/first lessons:

Creation the PROVE website and G-PROVE on-line ordering system for home delivery of fresh local produce (www.prove.com.pt)
Creation of 93 distribution places to market PROVE produce
Involving 137 participating small farmers
Involving 3800 participating consumers
Selling each week 35 tons of horticultural produce

Who will benefit:

Small farmers
Consumers
Environment

Contact: Paulo Pereira
E-mail: Paulo@atahca.pt



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°727988



Start: June/2017
End: May/2021

Budget: 5.999.937 €

Horizon 2020: ROBUST - Rural-Urban Outlooks: Unlocking Synergies

Practical problem

Cities are centres of industry and innovation while the countryside remains a place for food production and recreation. ROBUST breaks with this false dichotomy and stresses inter-connection, interdependence and blending of rural, peri-urban and the urban areas.

Partners

Names:

Wageningen University, Rural Sociology Group (NL); Aberystwyth University - Department of Geography and Earth Sciences (UK); Baltic Studies Centre (LV); Tukums Municipality, Development Department (TUKUMS) (LV); University of Gloucestershire, Countryside and Community Research Institute (UK); Federal Institute for Mountainous and Less-Favoured Areas (AT); Policy Research & Consultancy (DE); Peri-Urban Regions Platform Europe (PURPLE) (BE); University of Valencia, Research Institute for Local Development (ES); OIKOS – Development Consulting (SI); Natural Resources Institute Finland (FI); City of Helsinki, Urban Facts and Executive Office (FI); Regional Government of Valencia (ES); Regional Development Agency of the Ljubljana Urban Region (SI); ICLEI - Local Governments for Sustainability, European Secretariat (DE); Ede Municipality (NL); Commission for Regional Development and Coordination of Lisbon and Tagus Valley (PT); University of Lisbon, Instituto Superior Técnico (PT); University of Pisa, Department of; Agriculture, Food and Agri-environmental Science (IT); Gloucestershire County Council (UK); Regional Authority FrankfurtRheinMain (DE); Province of Lucca (IT); Welsh Local Government Association (UK); Regional Management Metropolitan Area Styria (AT).

Project

Objectives:

ROBUST will advance our understanding of the interactions between rural, peri-urban and urban areas, and identify policies and governance models that foster mutually beneficial relations. The improved governance arrangements will support Europe's smart, sustainable and inclusive growth strategies.

Expected results:

- A new synergy scanning, mapping, and evaluation method;
- a documentation of five broad types of functional linkages of relevance for smart and sustainable regional growth;
- the identification of opportunities for greater cross-sectoral cooperation and synergies; and
- the development of new (micro) businesses and job opportunities in rural, peri-urban and urban areas.

Results so far/first lessons:

During the project kick-off 11 Living Labs and 5 Communities of Practice were established, the latter including the topics new businesses and labour markets, and public infrastructures and social services. One question: How can new trends in labour markets like the rise of knowledge-intensive and creative businesses be matched with the very heterogeneous resources of city-regions?

Who will benefit:

Decision-makers in public and private sectors, planners, developers, entrepreneurs, citizens, interest groups, and NGOs.



Contact: Karlheinz Knickel
E-mail: karlheinz.knickel@googlemail.com



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 677622



Start: April/2016
End: March/2020

Budget: 5.575.829 €

Horizon 2020:

SIMRA: Social Innovation in Marginalised Rural Areas

Practical problem

How to enhance outcomes of societal well-being by meeting societal challenges through reconfiguring social practices and engaging civil society actors?

Partners

Names:

James Hutton Inst. (UK); Univ. Degli Studi Di Padova (IT); Universitaet Fuer Bodenkultur Wien (AT); Stichting Wageningen Research (NL); Perth College (UK); Ustav Ekologie Lesa Slovenskej Akademie Vied (SI); European Forest Inst. (FI); Mediterranean Agronomic Inst. Zaragoza / Int. Centre for Advanced Mediterranean Agronomic Studies (ES); Int. Center for Research on Environment and Economy (GR); Univ. Oulu (FI); Bundesanstalt Fur Agrarwirtschaft (AT); Ostlandsforskning As (NO); Accademia Europea Di Bolzano (IT); Lancaster Univ.(UK); Univ. Degli Studi Di Foggia (IT); Cairo Univ. (EG); Food and Ag. Organization of United Nations (IT); Euromontana (FR); Seeds-Int (LB); Foreco Technologies (ES); Rural Development Co.(UK); CETIP Network Sro (CZ); Oar-Regionalberatung (AT); Centre Tecnologic Forestal de Catalunya (ES); Univ. Bern (CH); Schweizerischen Arbeitsgemeinschaft Fuer Die Berggebiete (CH)

Project

Objectives:

SIMRA aims to fill the significant knowledge gap in understanding and enhancing social innovation in marginalised rural areas by advancing the state-of-the-art in social innovation and connected governance mechanisms in agriculture and forestry sectors and in rural development in general.

Expected results:

SIMRA aims to fill the significant knowledge gap in understanding and enhancing social innovation in marginalised rural areas by advancing the state-of-the-art in social innovation and connected governance mechanisms in agriculture and forestry sectors and in rural development in general.

Results so far/first lessons:

An international stakeholder science, policy and practice Think Tank facilitated co-learning. It informed development of a project definition of Social Innovation (SI), and a theoretical framework and classification of SI. The marginalised rural areas of Europe and the entire Mediterranean area were defined and mapped, and a database of examples of SIs was created and published online.

Project website: <http://www.simra-h2020.eu/>

Who will benefit:

European and national policy teams, stakeholders engaged in, or planning, social innovation, including scientists.



Contact: Maria Nijnik and David Miller
E-mail: david.miller@hutton.ac.uk



Supported by:



Start: June/2017
End: June/2022

Budget: 500.000 €

Innovation Project:

SMARTFAMER - e-commerce platform for fruit and vegetables that links directly farmers to the consumers.

SMARTFAMER - um portal de comércio eletrónico de hortofrutícolas que liga o produtor diretamente ao consumidor.

Practical problem

Small farmers face many obstacles to access the market: crushed margins, wide payment terms, low efficiency, heavy logistical costs. With no intermediary SmartFarmer will increase significantly the margin, reduce for 3 days the payment term, gaining in efficiency, innovation and sustainability

Partners

Type:

NGO
Other Enterprise

Name:

Oikos - Cooperação e Desenvolvimento
Fundação Vodafone; Vieira de Almeida & Associados - Sociedade de Advogados

Project

Objectives:

To foster rural local economies in Portugal through short supply chains

Expected results:

In 5 years we expect to have 30 local SmartFarmers covering the whole national territory

Results so far/first lessons:

Portal and 2 Apps (SmartFarmer and SmartPrice) set in place; 21 local partners (who will manage local SmartFarmers); 6 local SmartFarmers actually working; 150 registered users (47 of which are farmers); Need to improve logistic solutions

Who will benefit:

Small farmers, individual and collective consumers and the planet/environment

Contact: Pedro Krupenski
E-mail: pedro.krupenski@oikos.pt

AGRICULTURE 4.0 AND RURAL DEVELOPMENT

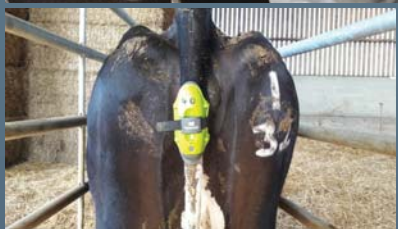
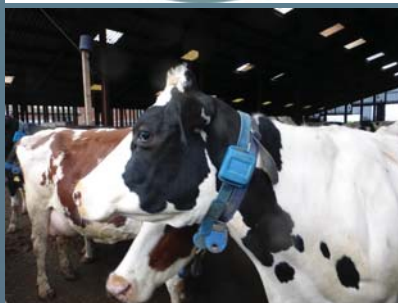
Precision farming





Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°696367



Start: March/2016
End: February/2019

Budget: 2.105.796 €

Horizon 2020:

4D4F: Data Driven Dairy Decisions for Farmers

Practical problem

How to best use data to make real time decisions on dairy farms which result in improved farm sustainability, and improved welfare for both animals and farmers.

Partners

Names:

Innovation for Agriculture (UK), Institute for Agriculture and Fisheries Research (BE), Estonian University of life Science (EE), LIBA (BE), Wim Govaerts and Co Cvba (BE), Latvian Academy of Science (LV), University of Agronomic Sciences and Veterinary Medicine of Bucharest (RO), Knowledge Innovation Market (ES), The Royal Swedish Academy of Agriculture and Forestry (SE), Zuidelijke Land en Tuinbouw Organisatie (NL), Van Hall Larenstein University of Applied Science (NL), Paragon Europe (MT), Institute for Food and Agricultural Research and Technology (ES), KU Leuven (NL), DeLaval International AB, (SE)

Project

Objectives:

The 4D4F thematic network is focused on developing a network for dairy farmers, dairy sensor technology suppliers, data companies, agricultural advisors and researchers, to explore ways to use data generated by dairy sensors to support improved decision making by dairy farmers.

Expected results:

Create a community of practice to share, debate, disseminate and support the implementation of innovative approaches to dairy management. Develop Standard Operating Procedures which can be integrated into the decision making process on farm. Link to relevant EIP operational groups. Collate all available systems in a Warehouse of Technology.

Results so far/first lessons:

The website WWW.4D4F.EU gives free access to: Best Practice Guides in 12 different Special Interest Groups, videos, case studies, infographics, details of available technology, and a forum that facilitates interaction. Bringing all relevant information to one place helps farmers make the correct investment decisions. Annual research priority reports identify gaps for future research.

Who will benefit:

Dairy farmers, Veterinarians, Agricultural advisors, Technology companies, Researchers, Investors

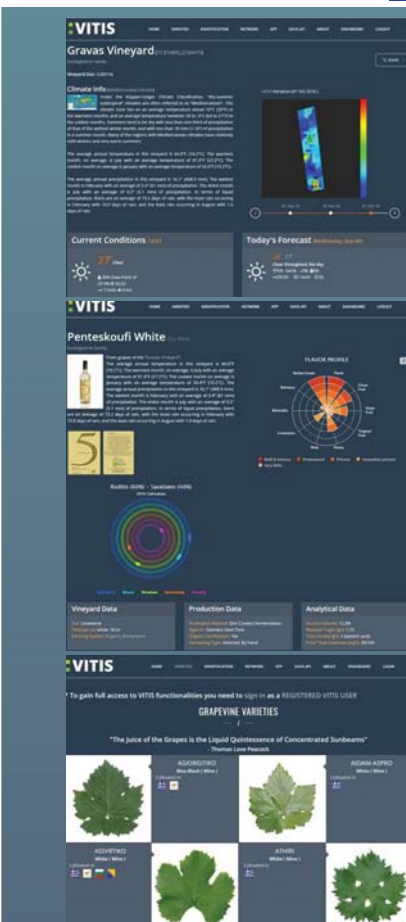


Contact: Richard Lloyd
E-mail: richardl@i4agri.org



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 644564



Start: January/2015
End: December/2017

Budget: 4.984.238 €

Horizon 2020:

BigDataEurope - Integrating Big Data, Software and Communities for Addressing Europe's Societal Challenges

Practical problem

Creating and linking information is a problem in every major area of agricultural research and in agriculture in general. This is especially important in viticulture where different research methodologies produce a great amount of heterogeneous data from diverse sources.

Partners

Names:

Semantic Web Company (AT); TenForce (BE); ERCIM / W3C (FR); Fraunhofer IAIS (DE); InfAI – Institute for Applied Informatics (DE); University of Bonn (DE); National and Kapodistrian University of Athens (GR); NCSR – National Center for Scientific Research – Institute of Informatics and Telecommunications (GR); CRES – Center for Renewable Energy Sources and Saving (GR); Agroknow (GR); CERTH – Centre for Research and Technology Hellas (GR); FAO – Food and Agriculture Organization of the United Nations (IT); VU University Amsterdam (NL); CESSDA – Consortium of European Social Science Data Archives (NO); EU SatCen – European Union Satellite Centre (ES); Open PHACTS (UK)

Project

Objectives:

BigDataEurope provides support mechanisms for all major aspects of a data value chain. The objective of the "Food and farming" Pilot is to demonstrate the ability of Big Data technologies to complement existing systems with efficient large-scale back-end processing workflows handling a variety of data types.

Expected results:

BigDataEurope aims to provide an adaptable, easy to deploy and use solution, which will allow interested user groups and stakeholders from different thematic topics (addressing Europe's Societal Challenges) to extend their Big Data solutions or introduce Big Data technology to their business processes

Results so far/first lessons:

For the "Food and farming" Pilot, the inclusion of different types of data complemented the existing pilot demonstrator (<http://vitis.agroknow.com/>) knowledge base. This helps to support complex real-life research questions, based on the correlation of environmental conditions with real observations on grapes production and quality, providing integrated solutions to the emerging problems in the European vineyards.

Website: <https://www.big-data-europe.eu/food/>

Who will benefit:

Stakeholders covering all spectrum of the agri-food ecosystem such as researchers, policy makers and agronomists.



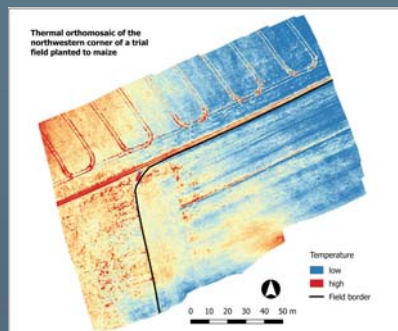
Contact: Panagiotis Zervas
E-mail: pzervas@agroknow.com



Supported by:



EUROPEAN UNION
Europäischer Landwirtschaftsfonds
für die Entwicklung des
ländlichen Raums



Start: 08/04/2016
End: 31/12/2019

Budget: 916.121 €

Operational Group:

Control of additional water use in crop production - situational, site-specific and automated (Precision Irrigation)

Steuerung des Zusatzwassereinsatzes in der Pflanzenproduktion – Situativ, teilschlagspezifisch und automatisiert

Practical

problem

In the federal state of Brandenburg (Germany), irrigation of arable land is a measure to maintain agricultural value despite decreasing summer rainfalls. To avoid over-using the available water resources, however, a precise irrigation control needs to be developed and tested under local conditions.

Partners

Type:

Research Institute

Farms

Private companies

Professional association

Name:

Forschungsinstitut für Bergbaufolgelandschaften e.V.

Grünhagen Ackerbau GmbH; Agrarbetrieb Altdöbern

Irrigama Projektgesellschaft Dr. Schörling & Partner; Hydro-Air international irrigation systems GmbH

Fachverband Bewässerungslandbau Mitteldeutschland

Project

Objectives:

Development of an economic solution for site-specific irrigation, which takes into account the actual water need of the crops. The potential of infrared thermography for precision irrigation control is evaluated in addition to traditional soil based approaches.

Expected results:

An existing model for steering irrigation is adapted to site-specific irrigation control. The model results are automatically transferred to the steering unit of centre pivots to help save labour resources. Since the steering approach is applied at farm scale and evaluated in cost-benefit analyses, we shall be able to develop a practical solution for precision irrigation for local farmers.

Results so far/first lessons:

Two existing center pivots were modified to enable the site-specific application of irrigation water. We derived soil-based irrigation management zones and controlled the timing and amount of irrigation water with an offline prototype of our steering model. Moreover, we acquired aerial images at the infrared spectrum to derive crop canopy temperatures and to calculate crop water stress indices.

Who will benefit:

Farmers, governmental and non-governmental institutions, scientists.

Contact: Beate Zimmermann
E-mail: b.zimmermann@fib-ev.de



Operational Group:

Data assimilation from soil-crop-climate sensor network in IRRINET DSS

Sensori e IRRINET: integrazione delle informazioni provenienti da reti di stazioni meteorologiche e sensori privati con il modello di bilancio idrico IRRINET

Practical problem

There is an increasing interest in the adoption of sensors to monitor the soil-plant-water system from growers and producer organizations. Nevertheless, data integration and accessibility, as well as a real benefit for farmers in terms of water savings are still missing.

Partners

Type:

State organisation

Name:

Consorzio di bonifica di secondo grado per il Canale Emiliano Romagnolo, Bologna

Research institutes

Centro Ricerche Produzioni Vegetali, Cesena; Università di Bologna

Farmers organisations

Azienda Agricola Sandri, Imola; APOFRUIT Italia – Soc. Coop. Agricola, Cesena; C.I.O. Consorzio Interregionale Ortofrutticoli S.c.a.r.l., Parma

Project

Objectives:

Integration of soil, crop and environmental sensors within the IRRINET regional DSS for irrigation management, which will allow farmers to benefit from an increased reliability of the monitored data and to automatize data integration and interactions in the IRRINET portal.

Expected results:

Integrated environmental data from private sensors and weather stations to the IRRINET DSS.
Creation of links between IRRINET and weather and soil sensors located in pilot farms.
Validation of the IRRINET irrigation scheduling advices based on the irrigation needs identified in farms.
Protocols for validation and integration in IRRINET of sensors data.

Results so far/first lessons:

Six farms with private sensors network already integrated into IRRINET dss. Protocols for data integration and validation is in testing and calibration phase. First year of field trials almost completed.

Who will benefit:

Farmers with irrigated crops in Emilia-Romagna Region.

Supported by:



Start: 01/09/2016
End: 31/03/2019

Budget: 199.949 €



Supported by:



Start: 01/01/2017
End: 31/12/2019

Budget: 297.378 €

Operational Group:

Evaluation of innovative agronomic strategy to improve precision in managing biotic and abiotic stress in fruit orchard

Valutazione e definizione di tecniche agronomiche innovative, mirate a ridurre fenomeni di lisciviazione di elementi minerali nel terreno e ad ottimizzare interventi di controllo di avversità biotiche e abiotiche in un eco-sistema frutticolo

Practical problem

Variability in fruit orchard is often very high. Extensive fruit farms operators are often trained to use high level of chemical inputs to correct trees deficiencies, without considering the orchard variability. Such management has high impact in costs and environment pollution.

Partners

Type:

Agricultural private companies

Name:

Soc.agr. Mazzoni s.s.; Soc.Agr. Vivai mazzoni s.s.

Research institute

HK-horticultural knowledge

Agri-food training organisation

Dinamica s.c. a r. l

Project

Objectives:

The objective is to better understand how to evaluate the potential yield in an orchard and to map it with a geo-statistical significance in order to connect it to biotic and/or abiotic trees stress, thus enabling to plan an agronomic strategy to avoid these stresses.

Expected results:

We expect to improve production levels, while reducing chemical inputs.

Results so far/first lessons:

We are still working on geo-referenced data with geo-statistical analysis to understand which is best suited to be used to create prescription maps and plan targeted interventions next year.

Who will benefit:

Fruit growers.





Supported by:

PROGRAMA DE
DESENVOLVIMENTO
RURAL 2014-2020

Practical problem

Operational Group:

Increasing the viability of sown biodiverse pastures through optimization of phosphate fertilization.

Viabilização de pastagens semeadas biodiversas através da otimização da fertilização fosfatada.

Most Portuguese pastures are poor grasslands on degraded soils. Some farmers invest in improved and fertilized grasslands, namely sown biodiverse pastures, however their economic viability is threatened by production costs, namely phosphate fertilizers.

Partners

Type:

Agri enterprise
Research /Teaching
Agri Association
Agri enterprise

Name:

Terraprima – Serviços Ambientais, Sociedade Unipessoal Lda
Universidade de Évora; Instituto Superior de Agronomia
Associação dos Criadores de Bovinos da Raça Alentejana
Herdade dos Grous – Agricultura e Pecuária, Lda; Terraprima Sociedade Agrícola Lda; ZEA - Sociedade Agrícola Unipessoal, Lda; Tapada dos Números, Sociedade Agrícola, Lda; Sociedade Agrícola Herdade dos Padres, SA; Pedro Sacadura Teixeira Cabral Duarte da Silveira - Herdade do Azinhal
Fundação Eugénio de Almeida

Project

Objectives:

Optimize the use of fertilizers in sown biodiverse pastures by using remote data sensing for evaluating pasture nutrient needs and using Variable Rate Technology for fertilizer distribution.

Expected results:

Technological method for obtaining high-resolution phosphate fertilization prescription maps.
Obtain phosphate fertilization prescriptions in order to optimize pasture productivity and to reduce production costs.
Establish a service to farmers in improving the economic viability of sown biodiverse pasture.

Results so far/first lessons:

The first activities will be selection of experimental plots and obtaining satellite data. 3D terrain models will be obtained as well as soil measurements with optic sensors, capacitance sensors and electric conductivity sensors. Soil and plant samples will also be analysed. UAV flights will be performed, collecting multispectral images and correlating them with soil and vegetation measurements.

Who will benefit:

Farmers will benefit from optimizing pasture fertilization, improving its productivity and decreasing production costs.

Start: May/2017
End: December/2021

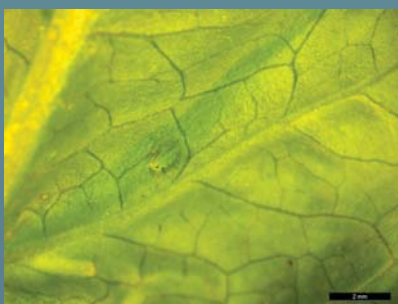
Budget: 503.033 €



Supported by:

European Agriculture Fund for the Development of Rural Areas: Europe invests here in rural areas with participation of the State of North Rhine-Westphalia.

Ministerium für Klimaschutz, Umwelt,
Landwirtschaft, Natur- und Verbraucherschutz
des Landes Nordrhein-Westfalen



Start: 01/04/ 2017
End: 31/03/ 2020

Budget: 717.233 €

Operational Group:

High precision detection and spraying of aphids for optimization of lettuce production

Optimierung des Anbaus von Pflücksalaten mittels Präzisionserkennung und -applikation von Pflanzenschutzmitteln

Practical problem

Lettuce cultures are routinely pesticide-treated to avoid widespread infestation with aphids which are not tolerated by consumers. An automated identification of infestation events would allow for selective spraying which reduces the costs for pesticide treatments and levels of pesticide residues.

Partners

Type:

Research network

Research institutes

Marketing organiser

Farm

Name:

Competence Centre Horticulture (KOGA)

Research Center Jülich GmbH, Institute for plant sciences (IBG-2); Bonn University, Systems Engineering in Plant Production

Landgard Obst & Gemüse GmbH & Co. KG

Schwarz Gemüse und Erdbeeranbau

Project

Objectives:

The aim is to identify suitable sensors for the remote detection of aphid-infested lettuce plants and to develop an improved spraying device for small-scale application of pesticides. Both techniques will be combined in a tractor-borne setup for the selective spraying of aphid-infested lettuce plants.

Expected results:

We expect that the biotic stress response of lettuce plants to aphid infestation leads to altered spectral reflectance signatures. Suitable sensors will be selected to remotely detect aphid-infested plants. Furthermore, we will develop a custom designed spraying installation for individual plants by combination of high-precision valves and jets for small-scale application of pesticides.

Results so far/first lessons:

In a first experimental approach, lettuce plants with different infestation intensities of the polyphagous potato aphid (*Macrosiphum euphorbiae*) were cultivated to do comparative spectral reflectance measurements. Furthermore, a detailed study of lettuce morphology and growth patterns was basis for the establishment of a technical test facility to develop the spraying device.

Who will benefit:

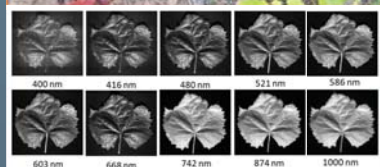
Farmers can reduce costs for pesticide treatments, and consumers benefit from products with lower pesticide residues.

Contact: Laura Verena Junker
E-mail: l.junker@fz-juelich.de





Supported by:



Start: January/2016
End: December/2018

Budget: 1.198.000 €

Colaborative Business R&TD Projects:

PARRA - Integrated platform for monitoring and evaluating vine health (automatic detection of flavescentia dorée: work on cost optimisation of data collection etc.)

PARRA - Plataforma integrada de Monitorização e avaliação da saúde da vinha

Practical problem

A vineyard, one of the most important crops in Portugal, currently faces the threat of diseases with strong economical impact, like Flavescentia Dorée. The early detection of this quarantine disease in large areas of vineyards, within a close time frame, will contribute to strongly reduce its impact.

Partners

Type:

Name:

Research/Teaching

Instituto Nacional de Investigação Agrária e Veterinária, I.P.; Universidade de Trás-os-Montes e Alto Douro; Instituto Politécnico de Viana do Castelo

Other Company

Agricultura, TEKEVER

Project

Objectives:

To develop a solution, exploring drones and other platforms, to collect vineyard data and develop automatic analysis algorithms to identify the presence of early stage symptoms of the Flavescentia Dorée. The project will explore hyperspectral sensors and will evaluate its results in real scenarios.

Expected results:

To improve temporal responsiveness in disease detection and containment; The reduction of operational costs of inspection and verification of vineyard grubbing actions and the reduction of production losses and yield of the vine due to this type of disease; PARRA's approach also ensures the development of a scalable solution, both in terms of size and usage application by different stakeholders

Results so far/first lessons:

The Project has collected multiple vineyard samples, performed laboratorial analysis and collected hyperspectral data in order to characterise the symptoms; laboratory observation established the minimum number of samples; Symptoms variability due to climate and location of the disease; A samples collection protocol was developed to ensure proper handling of the bio and hyperspectral data.

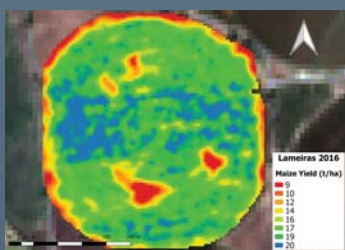
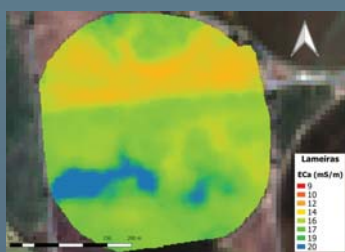
Who will benefit:

Vineyards producers;
Wine makers;
Agricultural enterprises;
Government agencies and laboratories;
Inspection agents

Contact: Nicole Cruz
E-mail: nicole.cruz@tekever.com



Supported by:



Start: April / 2014
End: December/2017

Budget: 220 000 €

PRODER:

SMARTCROP – Sustainable Competitiveness

SMARTCROP – Competitividade sustentável

Practical problem

The promoter, a maize producer in Vale do Tejo, seeks to implement a Smart agricultural production process based on the collection, compilation, treatment and data analysis, improving competitiveness with an agricultural intervention at the right time, in the right place, with the right amount.

Partners

Type:

Agri Enterprise
Research/Teaching
Agri Enterprise
Consultant

Name:

Quinta da Cholda
Instituto Superior de Agronomia
Hidrosoph
Consulai – Consultadoria Agro Industrial, Lda.

Project

Objectives :

Improve decision making process on farming management. Test and fit new technologies and equipment. Improve inputs and electric power efficiency. Integrate irrigation management with power meters. Identify critical points of gases emissions. Evaluate the cost/benefit of the new management system.

Expected results:

Application of new farm management tools to increase yields, reduce inputs and carbon emissions. Develop an online platform to support irrigation management and power usage.

Results so far/first lessons:

Integration of Precision Agriculture methods and technologies. Implementation of data communication system between different tractors terminal systems and head office computers. Creation of a new sustainability indicator dashboard. Improvement of Irristrat™ online platform and integration of a new module for the efficient use of energy

Who will benefit:

Farmers seeking to improve and rethink farm management in a more conscious way to apply inputs, water and power usage.



Contact: Bruno Caldeira
E-mail: bcaldeira@consulai.com



Supported by:

PROGRAMA DE
DESENVOLVIMENTO
RURAL 2014-2020

Operational Group:

SMARTFARMING - Precision integrated system for irrigated farming efficiency and sustainability.

SMARTFARMING - Sistemas integrados de precisão para a eficiência e sustentabilidade da agricultura de regadio.

Practical problem

Precision Farming is getting common among the farmers, and they have now precise and valuable information about their crops (soil, crops and applied water/fertilizing) in each point of the field. How could we use this information, and low cost technology, on a precise irrigation of a pivot?

Partners

Type:

Other enterprise
Agri association
Farmer
Agri enterprise
Research/Teaching

Name:

TPRO Technologies Lda.
Associação de Beneficiários da Obra da Vigia
Maria do Carmo Afonso de Sousa Carvalho Pereira Palha
Muita Farinha - Actividades Agrícolas Lda. Pereira Palha – Agricultura, Lda.;
Raízes Verticais - Exploração Agrícola, Lda.
Universidade de Évora

Project

Objectives:

Gain competences on Variable Rate Irrigation, with clear benefits in the efficient use of resources, especially irrigation water, soil conservation and energy, regarding the maximum crop yield, ecosystem sustainability and competitiveness of agricultural sector.

Expected results:

Based on the integration of the different data collected from wide range of sources, it will be created a high-value precision output in each moment of the season. This way irrigation precision system will result on a decision support system controlled by a skilled specialist, uploaded to Variable Rate equipment in the field (implemented with minor investment on farmer's irrigation equipment).

Results so far/first lessons:

From our field experience on the last 4 years, we realized that the pivots irrigation is not efficient at all, due to its homogeneous water displacement on heterogeneous fields. There is starting to appear low-cost technology to technically solve the problem, but the farmers need to join the electronics to the agronomics, to know "how to" do it each moment of the season.

Who will benefit:

Farmers that are already using irrigation pivots and the ones that will be reconverted to irrigation and install new pivots.

Start: September/ 2017
End: August/ 2021

Budget: 460.000 €

Contact: João Noéme
E-mail: joao.noeme@terra-pro.net



Supported by:



Start: July/2017
End: June/2020

Budget: 973.610 €

Cooperation supported by FCT, I.P.:

WATER4EVER - Optimizing water use in agriculture to preserve soil and water resources

Practical Problem

Agriculture is the largest consumer of water and a key source of diffuse pollution, promoting eutrophication of water bodies, with associated biodiversity loss. Regulated Deficit Irrigation is part of the solution by decreasing water and nutrient surpluses, thus improving management practices.

Partners

Type:

Research/ Teaching

Name:

Instituto Superior Técnico (Portugal); Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência (Portugal); Universidad Politécnica de Cartagena (Spain); Institute for Agricultural and Earth moving Machines (Italy); Abant İzzet Baysal University (Turkey)

Other company
Agri enterprise

isardSAT (Spain)
DEIMOS Engenharia SA (Portugal)

Project

Objectives:

To establish a direct link between water quality and specific agricultural practices by combining EO, in-situ measuring, hydrological and crop models to develop tools for (i) supporting regulated deficit irrigation, and (ii) assessing the benefits for hydrological resources at the catchment scale.

Expected results:

The following results are expected: (1) to minimize diffuse agriculture pollution through improved irrigation management techniques; (2) to develop low cost sensors and new remote sensing approaches for plot scale monitoring; and (3) to develop models as interdisciplinary tools to optimize irrigation and fertilization practices and to link spatial and temporal scales

Results so far/first lessons:

The project is still in its initial phase. Consortium members already have all sensors and models necessary to set up the experiments, which will now be improved based on the partners' experiences and following a multidisciplinary approach.

Who will benefit:

Farmers, Agronomists, Water Agencies

Contact: Tiago Ramos
E-mail: tiagobramos@tecnico.ulisboa.pt

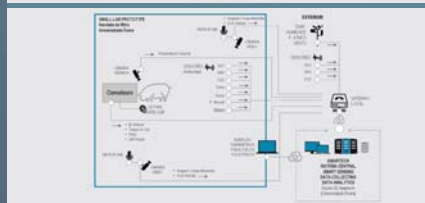
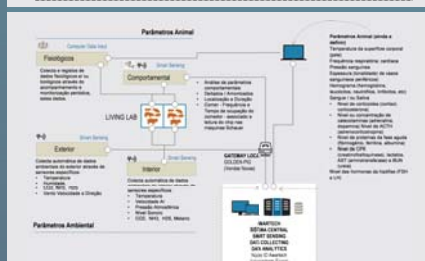
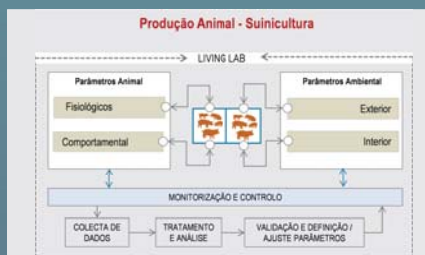
AGRICULTURE 4.0 AND RURAL DEVELOPMENT

Management tools to support farmers decision-making





Supported by:



Start: September/2016
End: September/2019

Budget: 1.301.923 €

Colaborative Business R&TD Projects:

AWARTECH - Animal Welfare Adjusted Real Time Environmental
Conditions of Housing

Awartech - Animal Welfare Adjusted Real Time Environmental Conditions of Housing

Practical Problem

The world is becoming each day more demanding in high quality food products, produced according to animal welfare regulations, ethic principles, and either social and environmental responsibility. These conditions demand a very high cost rationalization and increasingly value chain efficiency.

Partners

Type:

Agri Enterprise
Research /Teaching
Other company

Name:

Equiporave Ibérica
Universidade de Évora
Hexastep SA

Project

Objectives:

- Test and validate equipment and methodology for collecting and monitoring information on indicators of animal welfare, provided by the animal, in real time;
- Integrate all the information collected in an algorithm to be placed in a environmental control software and analyse its profitability.

Expected results:

The expected results of the AWARTECH is to create and develop a precision livestock innovative tool that controls and monitors, in real time, the environmental and welfare conditions that lead to the economic and productive sustainability of farms.

Results so far/first lessons:

Trials for the AWARTECH project have not yet started. They are foreseen to begin on September 2017.

Who will benefit:

Pig farming chain.

Contact: Vasco Fitas da Cruz
E-mail: vfc@uevora.pt

MANAGEMENT TOOLS TO SUPPORT FARMERS



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 688813



CAPSELLA
COLLECTIVE AWARENESS PLATFORMS FOR ENVIRONMENTALLY SOUND LAND MANAGEMENT BASED ON DATA TECHNOLOGIES AND AGROBIODIVERSITY



Start: January/2016
End: June/2018

Budget: 205.6750 €



Horizon 2020:

CAPSELLA—Collective Awareness Platforms for Land Management based on Data Technologies and Agro-biodiversity

Practical problem

Mainstream food production systems are becoming increasingly unsustainable due to unacceptable levels of food waste in industrialized countries. Alternative systems with reduced use of external inputs have to be promoted, based on an optimised use of agro-biodiversity and on improved food systems.

Partners

Names:

ATHENA Research and Innovation Center in Information, Communication and Knowledge Technologies (GR) Scuola Superiore Sant'Anna di Studi Universitari e di Perfezionamento (IT) Aston University / Aston Business School (UK) Agroknow (BE) Rete Semi Rurali (IT) Zephyr s.r.l. (IT) We Deliever Taste (CZ) Zuidelijke Land en Tuinbouw Organisatie (NL)

Project

Objectives:

CAPSELLA aims to a) raise awareness about the proper use and management of agro-biodiversity for addressing major sustainability threats on several layers: ecological, societal, economic, food quality; and b) offer innovative open data ICT solutions that will address needs coming from the communities.

Expected results:

CAPSELLA aims to bring together a set of agri-food related communities to interact both by holding targeted events and building a platform for data collection sharing. The intention is the collection of open data from the targeted communities towards building innovative ICT applications, thus enabling the development of smart applications either from the partners or from external communities.

Results so far/first lessons:

CAPSELLA has developed community driven scenarios, namely (a) agro-biodiversity at small farmers' level and (b) added value food supply chains. Based on the available data from the communities, CAPSELLA has developed seven open data ICT applications that are offering the desired functionalities to relevant communities.

<http://www.capsella.eu/>

Who will benefit:

Stakeholders from all spectrum of the agri-food ecosystem such as farmers, agronomists, food retailers and consumers

Contact: Panagiotis Zervas
E-mail: pzervas@agroknow.com



MANAGEMENT TOOLS TO SUPPORT FARMERS DECISION MAKING



Coordinator
Represented
EU countries



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 689687



Start: January/2016
End: January/2019

Budget: 2.999.273 €



Horizon 2020:

FERTINNOWA: Transfer of INNOvative techniques for sustainable Water use in FERTigated crops

Practical problem

Fertigation can lead to i) a significant increase in the water and nutrient use efficiency and ii) the reduction of the environmental impact. New technologies will enable the next step towards more sustainable water and fertiliser use, but we see that these technologies do not reach the farm level.

Partners

Names:

Proefstation Voor de Groenteteelt (BE); Proefcentrum Voor Sierteelt - PCS VZW (BE); Association Provencale de Recherche et D'Experimentation Legumiere (FR); Centro di Sperimentazione ed Assistenza Agricola (IT); Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek Tno (NL); Stichting Proeftuin Zwaagdijk (NL); Instituto Andaluz de Investigaciony Formacion Agraria Pesquera Alimentaria y de la Produccion Ecologica (ES); East Malling Research (UK); Fraunhofer Gesellschaft zur foerderung Der Angewandten Forschung e.V. (DE); Centrum Doradztwa Rolniczego W Brwinowie (PL); Instytut ogrodnictwa (PL); Universidad de Almeria (ES); The Agriculture and Horticulture Development Board (AHDB) (UK); Fundacion Cajamar (ES); Centro de Investigaciones Cientificas y Tecnologicas de Extremadura (ES); Instituto Valenciano de Investigaciones Agrarias (ES); Instituto Navarro de Tecnologias e Infraestructuras Agroalimentarias SA (ES); Priva Bv (NL); Comite D'Action Technique et Economique (FR); Kmetijsko Gozdarska Zbornika Slovenije Kmetijsko Gozdarski Zavod Maribor (SI); Provinciaal Proefcentrum Voor de Groenteteelt oost-Vlaanderen Vzw (BE); Proefcentrum Hoogstraten (BE); Optima Agrik Pty LTD (ZA)

Project

Objectives:

FERTINNOWA aims to have a better understanding of the barriers that keep growers from implementing new technologies. For this, FERTINNOWA will collect, exchange, showcase and transfer innovative water management solutions to improve water use efficiency and reduce the environmental impact.

Expected results:

FERTINNOWA will:

- Perform a growers' survey to identify the applied technologies and experienced bottlenecks;
- List and evaluate available technologies from the technological, socio-economic, legal and practical perspective;
- Provide a technology database;
- Exchange at least 23 technologies;
- List remaining gaps;
- Disseminate all gathered information and experiences.

Results so far/first lessons:

- A survey amongst 377 growers was carried out showing that growers face similar problems but apply different technologies and practices to solve them;
- 134 technology review documents were completed and made available on the FERTINNOWA technology database (www.FERTINNOWA.be);
- Remaining bottlenecks were listed;
- The exchange of 23 technologies was initiated.

Who will benefit:

Growers, grower organisations, advisors, researchers, regional and national authorities, technology suppliers.

Contact: Els Berckmoes
E-mail: els.berckmoes@proefstation.be

MANAGEMENT TOOLS TO SUPPORT FARMERS DECISION-MAKING



Supported by:



Start: June/2017
End: June/2021

Budget: 500.860 €



Operational Group:

FitoAgro - Methodology and tools for a better management of new key pest of the pear and apples in the West region.

FitoAgro - Metodologia e ferramentas para uma melhor gestão de novas pragas chave da pera e maçã na região Oeste.

Practical problem

The exit of active substances, which leaves enemies uncovered and the need to develop alternative strategies to chemical control; climate change that causes changes in the enemy life cycles, which leaves to the adaptation of the forecast models and as well as the entry of new enemies for which it is necessary to define control methodologies.

Partners

Type:

Research/Teaching

Agri association

Agri enterprise

Name:

ISA - Instituto Superior de Agronomia; ESA de Santarém; ESA de Castelo Branco; Universidade Nova de Lisboa

Coopval, CRL; Associação de Produtores Agrícolas da Sobrena; Cooperativa Agrícola do Bombarral, CRL; Frubaça, CRL; COTHN – CC

Frutus, CRL; Granfer; Ecofrutas, Lda; CPF - Centro de Produção e Comercialização Hortofrutícola

Project

Objectives:

Define risk assessment methods, economic thresholds and decision-making rules for the new key pests of the pear and apples in the West Region, based on the biological and meteorological data, collected in the Biological Observation Stations of the producers partners of this Operational Group (OG).

Expected results:

Define and disseminate to field technicians and growers, by digital media and leaflets, information on: biological characteristics of emerging enemies;
Risk assessment and economic threshold to support farmers' decision-making;
Biological and biotechnical control means, alternative to chemical control;
Risk maps and forecasting validated models.

Results so far/first lessons:

This OG has advanced so far because it focused on analyzing existing information that resulted from previous projects.

Who will benefit:

Pear and apple producers and their organizations.

Contact: Carmo Martins
E-mail: carmo@cothn.pt





Supported by:



Start: July/2017
End: June/2020

Budget: 218.161 €

Operational Group:

GEO SUBER – Cork oak monitoring.

GEO SUBER - Monitorização do montado.

Practical problem

The practical problem is the lack of mechanisms to monitor the vitality of the cork oak forests in real time, fragility that has been identified in the past without significant advances until now and very relevant to an ecosystem that during the last 3 decades is in a process of loss of vitality.

Partners

Type:

Agri association

Name:

Unac - União da Floresta Mediterrânica; APFC – Associação de Produtores Florestais do Concelho de Coruche Limitrofes

Research/ Teaching

Instituto da Conservação da Natureza e das Florestas, I.P.; Faculdade de; Ciências da Universidade de Lisboa ; Instituto Superior de Agronomia

Agri enterprise

Systerra – Engenharia e Gestão Lda.; Companhia das Lezírias S.A.; Luís Filipe Bual Falcão da Luz; Pedro Sacadura Teixeira Cabral Duarte da Silveira; Sociedade Agrícola Monte da Sé, Lda.; Pedro Miguel Belo Ramos Courinha Martins; Anta de Cima – Sociedade Agrícola, Unipessoal Lda.; Sociedade Agrícola do Freixo do Meio, Lda.

Project

Objectives:

Ensure periodic monitoring of the cork oak vitality through remote sensing and provide the forest owner through an online platform with the information for the management, namely the annual inventory of dead trees and production of cartography in support of the cork oak cutting requirements.

Expected results:

On-line platform for cork oak vitality monitoring; Mobile application for visualization/ access the data; Periodic cork oak mortality cartography; Adaptive management recommendations; Simplification of mandatory procedures (identification of the dead cork oaks for felling); Assess the influence of the foliar index evolution on the cork harvesting; Georeferenced historical record of mortality

Results so far/first lessons:

In 2004 an inventory of cork oak mortality was carried out, based on digital aerial photography and spectral treatment of the images (2008, Ribeiro and Surov), demonstrating the potential of the remote sensing approaches. The actual Copernicus program (Sentinel 2 mission), made available free satellite images, with high spatial/ temporal resolution which is an opportunity for forest monitoring.

Who will benefit:

Cork producers, forest associations/cooperatives, forestry technicians, municipalities and forestry national authority

Contact: Conceição Santos Silva
E-mail: css@apfc.pt



Supported by:



Start: 01/09/2016
End: 31/03/2019

Budget: 251.149 €

Operational Group:

Integration of IRRINET with a fertigation software program

Implementazione nel servizio IRRINET di un software per la gestione della fertirrigazione

Practical problem

Emilia-Romagna APRD promotes an efficient use of water and nutrients. IRRINET DSS is a system to schedule irrigation which was developed by CER and provides day-by-day information on how much and when to irrigate crops. Still, it misses a fertigation management program.

Partners

Type:

Research institutes

Name:

Consorzio di bonifica di secondo grado per il Canale Emiliano Romagnolo, Bologna; Centro Ricerche Produzioni Vegetali, Cesena

Farms

Società agricola Sandri, Imola; Consorzio Interregionale Ortofrutticoli Soc. Coop. A R.L., Parma; APOFRUIT ITALIA - SOC. COOP. AGRICOLA Pievesestina di Cesena; Grandi Colture Italiane Società Cooperativa Agricola, Ferrara

Project

Objectives:

The main objective is to create a software for fertigation that optimizes the use of mineral fertilizers and reduces the releases of pollutants, in order to improve agriculture sustainability and adaptability to climate change. The software will be implemented in the irrigation service IRRINET DSS.

Expected results:

The use of the software, rationalizing the use of mineral fertilizers, could provide significant cost savings thanks to lower amounts of inputs used, reduce the environmental impact due to lower losses by leaching, improve crops productivity due to a stronger synergy water / nutrient and provide a registration service of fertilization for the regional government.

Results so far/first lessons:

The software has already been created, integrated in IRRINET DSS and used for the calculation of the total annual amount of N, P, K for potato, tomato, corn and pear crops. The absorption curves of the tested crops have already been defined. Experimental tests were performed in field for calibration and validation of the model.

Who will benefit:

Farmers and producers organizations with irrigated and fertigated crops.



Supported by:



Start: January / 2015
End: December/ 2017

Budget: 140 459 €

PRODER:

Model for viticulture in the Douro Wine Region (ModelVitiDouro)

Modelo de previsão do desenvolvimento e produção vitivinícola na Região Demarcada do Douro

Practical problem

Activities in wineries and vineyards are often constrained by uncertainties on grapevine production. The ability to timely predict the production will bring obvious advantages, not only for a better planning of the activities in vineyards, but also for a better management of winery resources.

Partners

Type:

Name:

Agri Association
Research/Teaching
Agri Association

Adega Cooperativa de Favaiois C.R.L.
Universidade de Trás os Montes e Alto Douro
Adega Cooperativa de Favaiois
Adega Cooperativa de Mesão Frio
Adega Cooperativa de Freixo de Espada à Cinta

Project

Objectives:

The main goal of ModelVitiDouro is to develop a tool for predicting, on a daily basis, grapevine production in the Douro Wine Region. This tool represents an important added-value when planning agricultural practices in vineyards and is a decision support tool for winery management and stakeholders.

Expected results:

An user-friendly application will be delivered to the project partners. This application will be fed by meteorological data (temperature and precipitation) recorded by automatic weather stations at different vineyards, representing the wide range of climatic conditions within the Douro Demarcated Region (Baixo-Corgo, Cima-Corgo and Suro Superior)

Results so far/first lessons:

The model is already being implemented in the partner's wineries. The model still deserves improvements, such as the incorporation of new climatic parameters, other relevant non-climatic parameters and new historical data. The model will be continuously enhanced in close collaboration between UTAD and the wineries. Other wineries and wine producers may also benefit from the model.

Who will benefit:

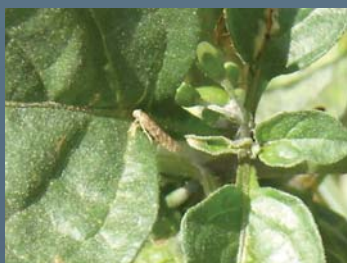
Although the three project wineries are the main beneficiaries, other agents may also benefit from the prediction model.



Contact: João Santos
E-mail: jsantos@utad.pt



Supported by:



Start: February/ 2013
End: March/ 2015

Budget: 181 630 €

PRODER:

PROTOMATE – A new support tool for the processing tomato crop management to guarantee the quality of the final product

PROTOMATE – Desenvolvimento de nova ferramenta de apoio à gestão da cultura do tomate para garantia da qualidade do produto final

Practical problem

Tuta absoluta was reported in 2011 in processing tomato crop and became the key pest of this crop at the Vale do Tejo region, causing high economic losses. In this context, production sector requested support for more knowledge about biology, monitoring and crop protection at an IPM perspective

Partners

Type:

Name:

Agri Enterprise
Other Association
Research/Teaching

Agromais, CRL
Centro Operativo Tecnológico Hortofrutícola Nacional (COTHN)
Instituto Superior de Agronomia da Universidade de Lisboa (ISA)
Instituto Politécnico de Santarém/Escola Superior Agrária (ESA/IPS);
Universidade de Évora (UE)
Federação Nacional das Organizações de Produtores (FNOP)

Agri Association

Project

Objectives:

The objective of the project was to develop a decision support system, contributing to the sustainable use of pesticides, biodiversity conservation and food quality. The development of this tool was based on the risk maps building and the occurrences in the main production regions

Expected results:

Protomate enhance the possibility to establish an easy-to-use risk evaluation assessment, decision-making rules for one of the key pests of the tomato crop - Tuta absoluta - and to deep the knowledge about the bioecology based on regional risk maps and occurrences. This information contributes to the development of a decision support tool, particularly to control Tuta absoluta

Results so far/first Lessons:

Crop protection of processing tomato crop in Portugal has been studied since 2001 to develop IPM strategies, particularly risk assessment methods and decision-making rules. Firstly to control usual problems (downy mildew and caterpillars) and also to study new species, *Frankliniella occidentalis*/TSWV. This project supported the continuity of technical knowledge about crop protection

Who will benefit:

The results will benefit directly the production sector, particularly decision actors and indirectly the consumers

Contact: Elsa Valério
E-mail: elsaval@gmail.com



Supported by:



SEMS - Smart Economic Monitoring Systems of production and operation costs related to precision and high mechanization



Start: 01/04/2016
End: 31/03/2019

Budget: 201.392 €

Operational Group:

SEMS - Smart Economic Monitoring Systems of production and operation costs related to precision and high mechanization

Monitoraggio economico dei costi di produzione e di esercizio riferiti a sistemi di produzione di precisione e a elevata meccanizzazione in agricoltura - SEMS

Practical problem

In general, the agricultural sector has poor ability to restructure and modernize. Interactive access to technical-economic information related to the main crops practiced in Emilia-Romagna, through the most common electronic devices, would improve the quality of farmers' decision processes.

Partners

Type:	Name:
Research and Experimental centre	CRPV soc. coop.
Research institute	UNIBO - Alma Mater Studiorum, University of Bologna
Advisory services	Experimental Farm Vittorio Tadini; Astra Innovazione e Sviluppo srl; Experimental Farm Stuard SCRL
Farms or Farmers organisations	Apofruit Italy; Asipo; Coams; Azienda Agricola Cicognani Gianni; Memento Agricultural Company

Project

Objectives: Establish an online system for monitoring the economic sustainability of farms' production systems in Emilia-Romagna. Monitoring and benchmarking data availability, for a quick utilization by farmers are a preliminary step for more informed decisions about the introduction of tech innovation.

Expected results: Implementation of a database which will be available to partners with information on the costs concerning the introduction of innovations on precision agriculture, high mechanization, and environmental sustainability techniques. Availability, through online consultation, of data on the production costs of main crops and costs related to the use of innovative machinery.

Results so far/first lessons: The procedures for implementing the database have already boosted the cooperation and comparison between the farmers involved in the project, both as individual farms and through partner organizations. The network of relationships, already existing and strengthened by the project and the participative processes adopted, seems to promise the success of the initiative.

Who will benefit: Farmers will benefit from easier and better-informed choices on crops management and investments.

Contact: Aldo Bertazzoli
E-mail: aldo.bertazzoli@unibo.it

Contact: Valeria Altamura
E-mail: altamura@crpv.it



Coordinator
Represented countries



Supported by:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 696294



Start: March/2016
End: August/2018

Budget: 1.997.731 €

Horizon 2020:

SMART-AKIS: European Agricultural Knowledge and Innovation Systems towards innovation in Smart Farming

Practical problem

Many smart farming solutions are available in the market nowadays. But many social and economic obstacles still remain for the wider adoption of such technologies by European farmers, who increasingly demand that new solutions fit their requirements.

Partners

Names:

Agricultural University of Athens (AUA - GR); Wageningen University & Research (WUR - NL); Leibniz-Zentrum fuer Agrarlandschaftsforschung (ZALF - DE); BioSense Institute (BIOS - RS); Association de Coordination Technique Agricole (ACTA - FR); Instituto Navarro de Tecnologías e infraestructuras Agroalimentarias SA (INTIA - ES); Deutsche Landwirtschafts-Gesellschaft e.V. (DLG - DE); Delphy (DELPHY - NL); Iniciativas Innovadoras SAL (INI - ES); Comité Européen des Groupements de Constructeurs du Machinisme Agricole (CEMA - BE); Fédération régionale des coopératives d'utilisation de matériel agricole de l'ouest de la France (FRcuma Ouest - FR); David Tinker & Associates Limited (DTA LTD - UK).

Project

Objectives:

Create and disseminate an inventory of Smart Farming solutions from the large stock of research results and commercial applications available. Foster the collaboration between the farming community, extension and advisory services, research and industry providers to promote innovation.

Expected results:

- Reports on research needs and interests of farmers on Smart Farming.
- 7 Innovation Hubs in Europe have held Innovation Workshops for innovation and market uptake projects.
- Smart farming platform:
- Searchable database of +1.000 Smart Farming Technologies.
- Assessment tool for best technology selection.
- Message board for networking.
- 1 EU & 7 national policy recommendations reports.

Results so far/first lessons:

- Online and free platform with a +1000 smart farming technologies database.
- Survey of over 270 farmers and experts all over Europe to understand and respond to the needs and interests of Smart Farming by farmers and the factors hindering the adoption of Smart Farming in Europe.
- Multi-actor Innovation Workshops held to generate, transfer and uptake smart farming solutions.

Project website: www.smart-akis.com

Who will benefit:

Farmers, research, advisory and extension services, agronomists and agricultural consultants, agricultural industry



Supported by:



Start: 01/01/2017
End: 31/12/2019

Budget: 292.022 €

Operational Group:

VIGISPORES: development of a decision support system for the management of three fungal diseases on shallot

VIGISPORES: développement d'un outil d'aide à la décision (OAD) pour la gestion de trois maladies fongiques de l'échalote

Practical problem

Shallot production in Brittany represents 78% of the national production. Three major airborne fungal diseases pose significant issues for crop management: mildew and two *Botrytis*. Currently, plant protection strategies are not adapted to the real spore airborne concentration on the field.

Partners

Type:	Name:
Farmers organisations	CERAFEL; Chambre d'Agriculture de Bretagne
Research institute	Vegenov
Research and advisory organisations	CATE; Terre d'Essais

Project

Objectives:

The objective of VIGISPORES project is to develop a decision support system enabling farmers to protect shallot crops against these three diseases in a more efficient way, by linking spore trapping network to a DNA-based detection and quantification.

Expected results:

Measurement of spore trapping heterogeneity factors at field scale.
Definition and validation of the damage thresholds for mildew and *Botrytis* on shallot.
Development of references to manage plant protection strategies on shallot crop.

Results so far/first lessons:

In 2017, we already developed and validated tools for DNA-based detection and quantification of the fungi spores in laboratory.

Who will benefit:

VIGISPORES project will directly benefit growers of shallot and onion.

Contact: Aurélie Juin
E-mail: a.juin@cerafel.com

AGRICULTURE 4.0 AND RURAL DEVELOPMENT

Robotics Mechanization





Supported by:



Start: January/2018
End: August/2021

Budget: 295.000 €

Operational Groups:

Control of invasive species *Vespa velutina* and losses minimization in beekeeping production and honey production.

*Controlo e minimização de prejuízos da espécie invasora *Vespa velutina nigrithorax* (*Vespa velutina*) na produção apícola*

Practical problem

The *Vespa velutina* is a predatory species of the European bee, with consequences that are manifested in beekeeping and honey production and derivatives. Due to its advance to urbanized areas, it begins to be a social problem.

Partners

Type:

Research
Agri Association:

Other Association:

Local Administration:
Farmers

Name:

Universidade de Trás-os-Montes e Alto Douro (UTAD)

ApiMarão – Associação de Apicultores da Serra do Marão; APFMP – Associação de Produtores Florestais de Montemuro e Paiva

Dolmen - Desenvolvimento Local e Regional, CRL; ADER-SOUSA – Associação de Desenvolvimento Rural das Terras do Sousa

Município de Amarante

Joaquim Madureira; Alexandre Joaquim Pinto Morais; Avelino Luís Coelho da Mota Ribeiro

Project

Objectives:

Vespa velutina dispersion throughout the North Portugal is growing every year. This way, it is necessary to know the morphological and ecological conditions that favor its activity in order to reduce its presence in invaded areas to control its advance.

Expected results:

To create a GIS project with all the occurrences;
To create a space-time dispersion model based on spatial analysis;
To create a wasp nests search model;
To model *Vespa* dispersion and create invasion potential maps; To develop a trap suitable to control the attack on the hives and weaken the *Vespa* nests.

Results so far/first lessons:

A provisional wasp dispersion model has already been created A model of trap and bait is already being tested

Who will benefit:

Beekeepers; Farmers; Populations of areas already invaded by *Vespa velutina*; City councils; Civil Protection Office

Contact: José Aranha
E-mail: jaranha.utad@gmail.com



Supported by:



Start: May/ 2015
End: December/ 2017

Budget: 110 000 €

PRODOR:

FixPomo - Fixed spraying system to apply pesticides

FixPomo - Sistema fixo de pulverização para aplicação de produtos fitofarmacêuticos

Practical Problem

Evaluation of a fixed system per opposition of the traditional system to Apple protection.

Partners

Type:

Agri Enterprise
Research/Teaching
Other Association
Public/Local Authority

Name:

Ecofrutas Lda
Cerca da Ribeira LDA
Escola Superior Agrária de Santarém (ESAS)
Centro Operativo Tecnológico Hortofrutícola Nacional (COTHN)
Direção Geral de Alimentação e Veterinária (DGAV)

Project

Objectives:

The main objective is to test a new spray system through fixed sprinkler equipment versus the sprayers producing quality and regularity of production and contributes to the sustainability of the systems. Reduce the impact on the environment and improve working conditions for the operators

Expected results:

Development of a spray system that a better treatment opportunity, with reduced phytosanitary interventions, greater economy and less impact on the environment and improving working conditions of the applicators.

Results so far/first lessons:

Decrease in the time of labor, saving human resources. Similar plant protection Less residue content in fruit at harvest. Less impact to the environment

Who will benefit:

The first benefit goes to the consumers: products with higher quality, second the farmworkers, grower's, and environment.

Contact: Carla Fernandes
E-mail: carlamcf@sapo.pt



Supported by:



Start: 01/03/2017
End: 31/12/2019

Budget: 306.000 €

Operational Group:

Identification of common wild oat and other weeds from drone images

Hukkakauran ja muiden rikkakasvien tunnistaminen minihelikopterikuvista

Practical

problem

Common wild oat (*Avena fatua*) is a noxious weed that cannot always be controlled with herbicides. Especially at low infestation, weeding is necessary.

Partners

Type:

Research institute

Name:

University of Turku

Farmers

1 in Nousiainen and 1 in Mynämäki
(farmers in Nousiainen and Mynämäki are being progressively involved and cooperating in the project)

Drone company

PSFire

Project

Objectives:

Identification and localization of weeds, especially common wild oat, in cereal fields, from drone photographs. In addition to the weed identification, drone-based imaging will be used to map the field for stress symptoms in crops.

Expected results:

We expect to develop a method for using drones to locate common wild oat in cereal fields. An automatic method for the analysis of drone images taken just before the weeding time is the main aim but we also look for possibilities to detect common wild oat much earlier. We also do multispectral imaging and field measurements to assess the physiological state of the crop plants.

Results so far/first lessons:

We already see that common wild oat can surely be identified from drone photographs. The main challenges are (1) cost efficiency, (2) fast treatment of large amounts of images, (3) automatic pattern recognition of common wild oat.

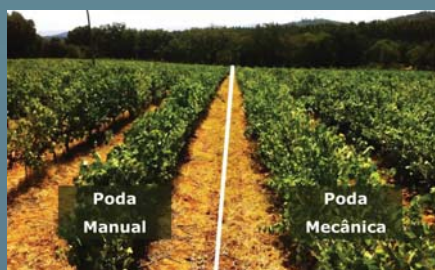
Who will benefit:

Farmers, because weeding of common wild oat is a time-consuming nuisance in the middle of the very busy midsummer.

Contact: Esa Tyystjärvi
E-mail: esatyy@utu.fi



Supported by:



Start: January/2017
End: December/2021

Budget: 482.000 €

Operational Group:

IntenSusVITI - Sustainable intensification of viticulture through mechanical pruning.

IntenSusVITI - Intensificação sustentável da vitivinicultura através da poda mecânica.

Practical problem

Portuguese vineyards have one of the lowest yields in the world, around 4 t/ha/year, severely limiting the sector's competitiveness. This low productivity is mainly due to the lack of innovative processes, especially in terms of pruning, and to the low fertility of vineyard soils.

Partners

Type:

Research /Teaching
Agri Enterprise

Agri Association

Name:

ISA - Instituto Superior de Agronomia

ACA - Adega Cooperativa de Almeirim; Quinta do Gradil - Sociedade Vitivinícola, SA; Quinta da Aroeira S.A.G., Lda.; Quinta de Lourosa - Sociedade Agrícola, Lda.; José Maria da Fonseca Vinhos S.A.; Sociedade Agro-Alimentar Da mascata, Lda.

AVIPE - Associação de Vitivinicultores do Concelho de Palmela; ATEVA - Associação Técnica dos Viticultores do Alentejo

Project

Objectives:

Produce grapes with low ecological footprint
Increase productivity through mechanical pruning and soil organic matter improvement
Develop new methods of risk estimation for sustainable pest protection
System optimization with precision viticulture techniques.

Expected results:

Wines from grapes with low ecological footprint. Mechanical pruning model relating pruning intensity with spatial variability. New practices to increase carbon sequestration in vineyard soils and ensure plant nutrition. Efficient methods for pest detection and risk estimation. Biotechnological and biological tools to control mealybugs.

Results so far/first lessons:

Mechanical pruning reduces costs and, potentially, increases yield. The yield increase is due to a higher number of bunches, though the berries were smaller. There seems to be a tendency for mechanical pruning to proportionate better conditions for the development of mealybugs.

Who will benefit:

Portuguese winegrowers, particularly ACA (250), ATEVA (2000) and AVIPE (300) members and the other project partners.

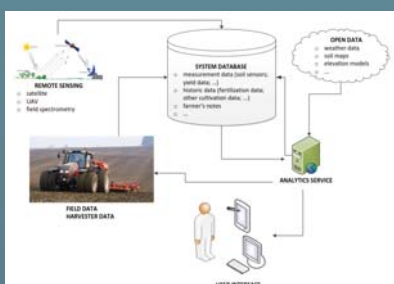
Contact: Manuel Botelho
E-mail: mbotelho@isa.ulisboa.pt



Supported by:



The European Agricultural Fund
for Rural Development:
Europe investing in rural areas



Start: 01/01/2017
End: 31/12/2019

Budget: 395.000 €

Operational Group:

Agricultural business development with intelligent data analytics
(MIKÄ DATA)

Maatalouden liiketoiminnan kehittäminen älykkäällä data-analytiikalla (MIKÄ-DATA)

Practical problem

There is the need for decision-making tools which can support farm management and are easily accessible. In particular those tools that take into account the existing variability in terms of soils and nutrients.

Partners

Type:

Research institute

Name:

Tampere University of Technology

Advisory and development organisation

Pro Agria

In addition, a group of farmers and a harvester company are strongly involved in the project

Project

Objectives:

The main objective is to create an intelligent network service that is able to support decision-making in farms by providing easily accessible data and taking into account particular conditions in farms, such as the type of soil and nutrients.

An additional objective is to collect and to analyse data from different sources.

Expected results:

An intelligent data service available for farmers, where they can download different kinds of field data and get automated analyses and visualisations. Farmers will be able to access data on soil and nutrient variations from these analyses.

Results so far/first lessons:

The field data has been collected from ESA and commercial satellites, Yara Nsensors, hcompinearvesters and from a drone. The first version of the data service has been created.

Who will benefit:

Farmers will be able to access a centralized service where they can download their own field data and get analyses of various parameters.

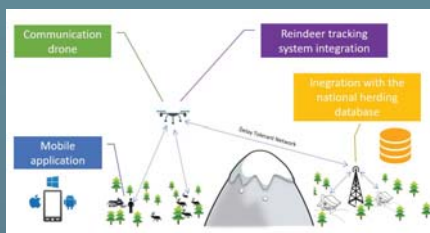
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Supported by:



VATTENFALL



Start: 01/03/2017
End: 30/06/2020

Budget: 639.000 €

Operational Group:

Planning Tool for Reindeer Management Companies (NomaTrack)

Planeringsverktyg för rennäringsföretag – teknikutveckling i renskötseln

Practical problem

Reindeer herding practices in Lapland (SE) take place in vast remote areas. Scarce mobile networks and mountainous terrains challenge daily communications and prevent adaptation of conventional GPS tracking. In order to reduce the reindeer herding costs, alternative ICT infrastructures are needed.

Partners

Type:

Reindeer herding economic association

Name:

Dålvadis

Villages

Sirges Sami village, Tuorpon Sami village, Jåhkågasska Tjiellde Sami village, Udtja Sami village

Research institute

Luleå Technical University

Project

Objectives:

To develop a digital planning tool for reindeer herders that can be used in areas with or without access to mobile Internet. This is to reduce cost and optimize work when gathering reindeer during husbandry activities.

Expected results:

Successful combination of an off-the-shelf drone technology and a customized mobile app with a new communication architecture. This is to improve communication in remote grazing areas, to seamlessly integrate new and existing herd tracking solutions for real-time monitoring, and to allow reindeer herders to share relevant information from the grazing areas.

Results so far/first lessons:

The first prototype was developed and will be tested this fall (2017). Key challenges so far: altering national drone flying rules, challenging integration of Cloud-based tracking solutions, problems with ice formation on GPS collars, issues with collected GPS traces ownership and access.

Who will benefit:

Reindeer herders, cattle herders in remote areas, people living in communication-challenging areas.

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Contact: Samo Grasic
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Supported by:



Start: 01/04/2016
End: 31/03/2019

Budget: 160 000 €

Operational Group:

Performance trialling of a dynamic, automated cherry-orchard cover system to protect against rain, hail and pests

Messa a punto di un sistema dinamico automatico di copertura antipioggia, antigrandine e antinsetto per la copertura del ciliegio

Practical problem

The cracking of the fruit is the worst adversity of the cherry tree. Furthermore, much of the cherry blossom is also attacked by new alien bugs such as *Drosophila suzukii*, a small insect present in the areas of cultivation of northern Italy whose causing large product losses.

Partners

Type:

Name:

Research institutes

Università di Bologna; Centro Ricerche Produzioni Vegetali; Magif s.a.s.

Farmers organisations

Az. Agr. Capii Graziella; Soc. Agr. Maseroli Annalita; Soc. Agr. Casa Claudia; Soc. Agr. Ripa di sotto

Project

Objectives:

The Project's primary goal is to devise an innovative, fully automated system providing integral protection of new and extant cherry orchards using cover sheets and netting that open and close automatically vis-à-vis impending weather conditions, plant health risks (cracking and *D. suzukii*).

Expected results:

The main result expected is the delivery of two automated prototypes of cover systems that confer the following benefits: effective defence against adversities both abiotic and biotic; to schedule harvest date even vis-à-vis rain events; saving of overhead time via faster system opening and closing; assurance of achieving higher quality crop yield even in seasons of frequent rainfall.

Results so far/first lessons:

The design and installation of the two automated prototypes of cover systems has been completed. The testing phase in order to verify their effective functioning has started during summer 2017. This testing phase will allow to carry out in the next two years (2018-2019) all the foreseen checks on the fields, sampling and laboratory analyses.

Who will benefit:

Fruit-growers and consumers in general.





Supported by:

UNião Europeia
Fundo Europeu
de Desenvolvimento Regional**ROMOVI**
ROBOT MODULAR E COOPERATIVOStart: January/2017
End: August/2019

Budget: 1.156.000 €

Colaborative Business R&TD Projects:

ROMOVI - Modular and cooperative robots for slope vineyards

ROMOVI - Robô Modular e cooperativo para vinhas de encosta

Practical problem

Steep slope viticulture presents challenges to mechanisation and robotisation due to the sharp inclination of its terrain. Namely, the harsh atmospheric conditions, the lack of space to manoeuvre, and the impediment of communications due to natural obstacles complicate navigation in these terrains.

Partners

Type:

Name:

Other company

TEKEVER AS

Research/Teaching

INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência

Agri Association

ADVID- Associação Desenvolvimento da Viticultura Duriense

Project

Objectives:

Research and develop a land robotic solution for slope vineyards that is able to autonomously perform logistic and monitoring tasks, combining modularity and versatility with robustness.

Expected results:

A stable mechanical platform, able to navigate without tipping over and to overcome obstacles;
The capability to determine the localization of the robot without GPS signal, and to delineate paths which are aware of the robot's center of mass and avoid.

Results so far/first lessons:

Going 6 months into the project, the ROMOVI consortium has agreed to focus on monitoring water stress in terraces with one row, through the use of optical sensors and placing probes in the ground. The operational and technical requirements, as well as the general architecture are defined. Currently the development activities are in their initial state.

Who will benefit:

Winegrowers and winemakers.

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Supported by:



Start: October/2016
End: September/2018

Budget: 606.951 €

Colaborative Business R&TD Projects:

SheepIT: An IT based grazing control system

SheepIT - Sistema de controlo de pastagem baseado em tecnologias IT

Practical problem

Weeding wild vegetable species growing in vineyards and orchards farmland is a costly process, which needs to be repeated periodically, being typically done by mechanical and chemical methods; Mechanical methods comprehend high costs in terms of labor and their chemical counterparts are considered very aggressive for the cultures; Chemicals remain in the environment and may contaminate water lines, being harmful both to the environment in general and to the final consumer

Partners

Type:

Research/Teaching
Other Company

Name:

Technical Institute of Viseu (ESAV); Institute of Telecommunications (UA)
Ramos Pinto S.A.; Globaltronic S.A.

Project

Objectives:

Adopt the usage of animals for weed control, which is an old method that has been successfully tested in various regions, reducing the environmental impact and providing land fertilization;
Develop an IoT based system, able to control animal posture, limiting their ability to access branches and vine fruits, and to deploy virtual fences to control animal feeding areas.

Expected results:

An IoT enabled system that will allow the use of herds of sheep to make the weeding of vineyards safe.

Results so far/first lessons:

Production of alfa prototypes of the sheep posture collar;
First field trials of the equipment

Who will benefit:

Sheep owners who can monetise their herds for vineyard weeding;
Vineyard owners that will reduce weeding costs and improve their wine quality





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