H2020 European research and innovation projects for a productive and sustainable agriculture
Summary

Introduction 1
Editorial 2
Key figures 3
Vocation of the Agricultural Technical Institutes (ITAs) 4
European schemes and programmes 5

Resource management (soil, water, biodiversity…) 7
SheepNet .................. 8
IoF ............................ 9
Feed-a-Gene .............. 10
NoAW ....................... 11
GenTORE .................. 12
SMARTER .................. 13
IMAGE ........................ 14
SOLACE .................... 15
SmartCow .................. 16
RELACS .................... 17
MySustainableForest ...... 18
SMART AKIS ................ 19
Inno4Grass ................. 20
Eurodairy .................. 21
EUFRUIT ................... 22

Healthier plants and animals 23
WINETWORK .............. 24
IWMRAISE .................. 25
HealthyLivestock .......... 26
RUSTWATCH ............... 27
EUCLID ..................... 28
INNOSETA .................. 29
EUPIG ........................ 30

Integrated ecological approaches from farm to landscape level 31
LEGVALUE .................. 32
DIVERIMPACTS .......... 33
LIVESEED ................... 34
ISAGE ........................ 35
BRESOY ..................... 36
REMIX ........................ 37
TRADITOM .................. 38
TREASUR .................... 39
DIVERSIFOOD .............. 40
OK-Net Arable ............. 41
OK-Net Ecofeed .......... 42
ROSEWOOD ................ 43

New openings for rural growth 45
INCREDIABLE .............. 46
PANACEA .................... 47
CERERE ...................... 48

Enhancing human and social capital in rural areas 49
NEFERTITI ................... 50
PLAID ........................ 51
LIAISON ..................... 52
AgriSpin ..................... 53

Presentation of the Agricultural Technical Institutes 57

These projects have received funding from the European Union’s Horizon 2020 research and innovation programme
For Acta and the network of Agricultural Technical Institutes (ITA), 2018 is a pivotal year for their European strategy, making it possible to take stock at the mid-point of the 2014-2020 European programming period. In 2014, Acta launched its European strategy in response to the guidance provided by DG AGRI for EIP-AGRI (Partnership for innovation ‘for a productive and sustainable agriculture’). These guidelines sought to finance more applied and more effective projects in the future, projects close to the field and so fully in line with the vocation and core business of the institutes.

Acta and the ITA network have invested heavily in European activities by making the Horizon 2020 programme a real priority for action and partnership, in addition to other European windows for financing research, development and innovation projects (LIFE, Interreg, COST and EAFRD). This booklet presents the 41 Horizon 2020 projects that Agricultural Technical Institutes coordinated or participated in between 2014 and 2017. It illustrates both the very strong vitality and involvement of ITAs in the Horizon 2020 programme, but above all it displays the wide range of topics, themes and challenges addressed by the network and the diversity of skills and know-how that ITA takes advantage of in the many cooperations undertaken with a large number and variety of partners from across all European countries. European cooperation has been a strong, priority and ambitious focus for the development of Acta and the ITA network in the recent years of the Horizon 2020 programme, and must continue to be for the future programme Horizon Europe (9th Framework Programme for Research and Innovation - 2021-2028) in order to provide our agriculture with the innovations it needs.

Sébastien Windsor
Acta president
In 2012, the European Commission launched the European Innovation Partnership ‘Productive and Sustainable Agriculture’ with the objective of setting up a new, more cooperative and interactive concept for European research projects and Innovation. This new multi-stakeholder project paradigm plays particularly strong attention to ensuring that the knowledge of the actors involved in the project is complementary. This approach is applied to both so-called ‘Multi-actors’ projects in the Horizon 2020 programme and the ‘Operational Groups’ in innovative projects financed by the EAFRD in the Regions. The new system is in addition to the so-called ‘classic’ research projects via additional budget from 2014 in Horizon 2020 and in the CAP. The purpose of these innovative and interactive projects is to produce technical and operational solutions ready for implementation and really needed by farmers, foresters, economic sectors and rural areas. Applied research and the work of technical institutes are highly valued in this innovative policy framework, through the key role it plays as an interface between research, research-innovation and innovation advisers and the field. This is reflected both in their ability to understand the needs of the sectors rather than to produce useful scientific and technical knowledge. The Acta network must confirm its current dynamic in order to allow better interaction with stakeholders, more fluid flow of information and finally the dissemination of innovative solutions in French and European ecosystems through regional Research-Development-Innovation projects.

Inge Van Oost - European Commission - DG AGRI – EIP-AGRI

The agricultural world is more than ever at the centre of attention because it constitutes alone a real major societal challenge for our future and for the future of our territories. It brings together the challenges of competitiveness and employment, of the environment, the development of rural areas, food and agricultural health, but also cultural identity. Agriculture and agri-food are the first economic pillar of our region and to respond to these many challenges, the Region has made Research and Innovation one of the priorities of its strategy for our researchers and companies to develop solutions that will have a positive impact on our society.

Acta and the network of Agricultural Technical Institutes have always worked in this field by providing the agricultural sectors with the innovations necessary to put into practice this dynamic of change. In a world where challenges are globalised but where the solutions to be provided must be more and more local and personalised, European projects must be increasingly local and personalised to allow us to benefit resolutely from the know-how and knowledge of our European neighbours for the benefit of our farmers and territories. These projects also represent an opportunity to promote regional expertise in our areas of excellence. It is only through a collective approach that we can respond to these issues. This is why the Pays de la Loire Region is committed to the network of Agricultural Technical Institutes to encourage and amplify this European dynamism developed in partnership with national and regional stakeholders in research, development and agricultural consulting. Our common goal: to rely on innovation to implement transition solutions in agriculture and food.

Christelle MORANÇAIS – President of the Pays de la Loire Regional Council
Acta manages 18 Agricultural Technical Institutes in France. With almost 1,800 collaborators, Acta’s network adds value to unique French know-how, the source of encouraging developments and sustainable partnerships.

**Acta in figures**

- 6 million euro budget
- 60 years of existence
- 60 R&D projects underway
- 42 collaborators
- 15,000 copies of the Phytosanitary index sold annually
- 1.7 million euro in sales and services

**Agricultural Technical Institutes (ITA) in figures**

- 189 million euro of budget
- 18 Agricultural Technical Institutes qualified in 2018 and Acta as coordinating body
- 1,755 collaborators including 1,362 PhDs, engineers and technicians
- 130 new partnership projects launched each year
- 41 European projects (H2020) underway
- 44 new regional projects each year (including overseas territories)
- 27 doctorates in progress
- Participation in more than 100 formalised national and international networks
- 745 training sessions given and 9,554 participants each year

**Distribution of the overall budget of the ITA**

- Acta: 3%
- Livestock: 24%
- Field crops: 42%
- Specialised production: 31%

Source: Acta 2017
The vocation of ITAs
At the crossroads of professional needs and societal issues

Created and led by farmers, Agricultural Technical Institutes (ITAs) are applied research organisations offering technical support, experimentation, expertise, training and information. Their operational role involves adapting to the terrain and, as such, they play an essential role in the creation and dissemination of technical progress in agriculture and further downstream.

ITAs are research structures recognised under private law and recognised by the state through their credentials and the signature of a multi-year contract between Acta, as the head of the network of ITAs, and the Ministry of Agriculture, which identifies objectives designed to meet the priorities of the agricultural and rural world.

Specialised by production sector, they conduct projects of general interest and sector-specific projects guided by agricultural and food processing professionals. They:

- Provide an interface between research and development
- Conduct applied and finalised research projects
- Offer expertise to inform professional and public decision-making
- Transfer and disseminate research results
- Contribute to the objective definition of product quality within the framework of procedures for standardisation, certification and qualification
- Conduct specific projects at the request of trade associations or through private contracts as service providers.

The added-value of ITAs involved in H2020 projects according to the network’s engineers:

For ITAB, the European projects were the way to develop research capacities of its own.

Frédéric Rey (ITAB)

In HealthyLivestock, we are going to test a technology used by Newcastle University to weigh pigs and then we are going to use this technology in complementarity with the one we are currently using in France.

Anne Hemonic (IFIP)

The multi-actor approach provides the institute with the opportunity to recognise the singularity of the technical institutes’ work and its essential role at the interface between research and development.

Etienne Pilorgé (Terres Inovia)

In the Agricultural Technical Institutes, there is a recognised know-how in terms of project coordination.

Eric Serrano (IFV)

In the PLAID project, we are involved creating and analysing demonstration study cases. We bring a real expertise in the manner of assessing concrete cases of innovation transfer.

Anne-Charlotte Dockès (Idèle - Institut de l'Elevage)

Acta’s role in Smart-AKIS is notably to establish technical recommendations to farmers and advisers, but also strategic ones about future research programmes, as well as to identify key actors and barriers for the dissemination of digital innovations in agriculture.

Samy Aït-Amar (Acta)
European schemes and programmes

Horizon 2020

Horizon 2020 is the most important research and innovation programme in the history of the European Union, with a budget of almost €80 billion for a period of seven years (2014-2020). This policy follows the willingness to implement the Innovation Union, aimed at supporting European competitiveness and promoting smart, inclusive and sustainable growth. Calls and projects funded by the EU in the H2020 framework are based on three axes: excellent science, industrial leadership and societal challenges. Within Societal Challenge 2 (‘Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy’), the European Commission fosters a multi-actor approach: gathering actors from different backgrounds (advisers, researchers, universities, farmers, agronomists, decision-makers, companies, technicians, civil society, NGOs etc.).

The Horizon 2020 programme funds both research and innovation projects and thematic networks dedicated to the exchange and transfer of applicable know-how and knowledge.

The French Agricultural Technical Institutes are applied research structures and are therefore particularly adapted to these new paradigms of multiple actors and interdisciplinary projects. They are essentially but not exclusively concerned by the H2020 Societal Challenge 2, that’s why some projects corresponding to calls from other pillars such as ‘Earth observation’ or ‘infrastructures’ are also included in this booklet.

Useful links:


Horizon 2020 projects in numbers

- **227 projects**
  - funded in the EU *
- **41 projects**
  - for Acta’s network**
  - Participation in 2/3 of the thematic networks**
  - 4 H2020 projects coordinated by the network **
  - 15 Work Package leaders**

* in the framework of Societal Challenge 2; ** (2014-2017)
The European Innovation Partnership for a productive and sustainable agriculture (EIP-AGRI) is an instrument implemented in 2014 by the European Union, aimed at fostering and stimulating innovation in the farming sector. Know-how and knowledge exchange between the different actors participating in research and innovation projects as well as the dissemination of best practices are two objectives of this policy.

EIP-AGRI is based on two European policies: the second pillar of the Common Agricultural Policy (CAP) and the European research and innovation policy (Horizon 2020). In the Horizon 2020 framework, EIP-AGRI finances multi-actor projects gathering actors from different professional backgrounds and European nationalities. Within the CAP and EARDF (agricultural and regional development fund) framework, EIP-AGRI supports the establishment at the regional level of Operational Groups, designed on the multi-actor model of H2020 projects. This approach fosters the networking and coherence between the two project levels (regional and European) when they work on similar or close themes.

EIP-AGRI also initiated the constitution of Focus Groups at the European level. Some 20 European experts take place in these groups, dealing with one specific research theme in agriculture and trying to identify the situation, to remove barriers and propose practical and operational solutions linked to this question (organic farming, smart farming, circular economy, water and farming etc.).

Useful links:
- https://www.reseaurural.fr/
- https://ec.europa.eu/eip/agriculture/

EIP-AGRI Operational Groups in numbers

- 3,200 OGs to be funded in the EU from now to 2020
- 116 OGs in France*
- 37 OGs with ITA participation*
- 13 OGs coordinated by an ITA*

*(2018-05-01)
In its long-term strategy, the Directorate General of the European Commission dealing with Agriculture and Rural Development (DG AGRI) established several priorities, one being resource management. The objective behind this priority is to find an equilibrium between productivity and environmental protection. As a consequence, a consideration of the links between ecosystems, resource use and climate is necessary. Moreover, new information and communication technologies can provide new uses and practices in this sphere. It can also concern the circular economy. Finally, smart land use is a possible answer to the high greenhouse gas emissions and climate change.
SheepNet is a thematic network project about practice-driven innovation. Sheep productivity is a critical component of farmers’ income and therefore of the sustainability and attractiveness of sheep farming in the EU. SheepNet will establish the durable exchange of scientific and practical knowledge among researchers, farmers and advisers, exchanging scientific and practical knowledge through a multi-actor and transdisciplinary approach.

**SheepNet** brings together six leading EU sheep producing countries, plus Turkey, Australia and New Zealand. It aims to:

1. Produce a technical and practical knowledge database thanks to the contribution of numerous innovating farms,
2. Foster cross-fertilisation through multi-actor workshops at the national and international scales, with a broad and interactive participation of the ‘sheep community’
3. Develop learning and communication materials, mainly digital

SheepNet is strongly supported by EIP-Agri’s existing Operational Groups and their research.

**ITA’s missions:**

- Coordinating the European project
- Leading a thematic network
- Linking with Operational Groups

---

**Sharing of practices and innovations to improve sheep productivity**

**Functioning on 3 pillars**

November 2016 – October 2019

€ 2m

Coordinator: IDELE - France

9 partners from 7 countries
Internet of food and farm

Providing precision farming
Internet of Food & Farm 2020 (IoF2020) has a revolutionary potential. It aims at considerably improving the level of control and automated decision-making in agriculture. Until which level can the Internet of Things be integrated and revolutionise the agricultural world and the food industry?
The objectives are principally to provide farmers with practices and tools for precision farming, but also to obtain a more sustainable production system and food chain.

Developing internet technologies in European farms
To achieve these goals, the IoF2020 project organises 19 case studies around five sectors (fruits, arable, vegetables, dairy and meat). Thanks to these studies, IoF2020 aims to develop, test and demonstrate the benefits of internet technologies within the European farms.
The IoF2020 project considers both the supply and the demand side. For the first, the expectations are to maintain and consolidate the position of the European technological industry in the world, by using these models inside European agriculture. For the second, it is to foster the use of these instruments in agriculture in order to secure and elaborate a coherent food system for future European generations.

ITA’s missions:
- Developing observation-based measuring tools that help farmers to make better informed decisions on fertilisation and irrigation
- Creating innovative services in the arable farming chain based on IoT technologies and data management platforms
- Showing how IoT-based agricultural monitoring systems can help to reduce the ecological footprint of farming, save costs and improve the working environment
Reconciling efficiency and environmental issues

The competition between food, feed, and fuel encourages actors to look for new solutions to increase the efficiency and sustainability of livestock production systems. To do this, the EU has to rely to a greater extent on locally produced feed sources. This can be achieved by unlocking the potential of existing feedstuffs, by identifying new and alternative feed sources but also breeding animals able to exploit them more efficiently. Because of the diversity in feed sources and in feed technologies, there is not a single solution to improve the utilisation of locally produced feedstuffs and to attain protein self-sufficiency. An approach where different actors combine their expertise and skills is essential to ultimately reach this goal.

New resources, technologies, and livestock methods

Feed-a-Gene aims to better adapt different components of monogastric livestock production systems (i.e., pigs, poultry and rabbits) to improve overall efficiency and reduce the environmental impact. This involves:

1. The development of new and alternative feed resources, non-GMO and locally produced.
2. The development of methods permitting the characterisation of nutritional values of feedstuffs.
3. The identification and selection of robust animals, adapted to varied conditions.
4. The development of precision feeding techniques making it possible to optimise nutritional supplies and animal potential.

Adapting feed, animal and feeding techniques to improve the efficiency and sustainability of monogastric livestock production systems

Adapting feed, animal and feeding techniques to improve the efficiency and sustainability of monogastric livestock production systems

Contribution to the production of alternative feed proteins from European rapeseed and soybean

Technological improvement of rapeseed crushing processes

Construction and validation of prototype precision feeding systems

Assessing interactions between genetics and diet characteristics

Evaluating the interest of breeding new feed efficiency traits concerning the ability of pigs to digest feed

Development of precision feeding for poultry and the assessment of new livestock system sustainability using these practices

Estimation of animal needs thanks to modelling

Environmental impact assessments using Life Cycle Analysis
Unavoidable agricultural waste
The No Agricultural Waste (NoAW) project is tackling the challenge of zero waste. NoAW wants to apply the idea of a circular economy by reusing agricultural residues (tendrils, straw, manure etc.). A certain amount of agricultural waste is unavoidable; their quantity depends on the production volume. NoAW perceives this waste as a true resource in itself, able to benefit from a rehabilitation strategy and be reused and transformed in high added value products. This would reduce environmental impacts on water, air and soil.

Reuse agricultural residues
The ambition is to explore the potential benefits of converting agricultural waste in eco-efficient products (bioenergy, biofertilisers etc.). The project has a particular consideration for environmental and human security, linked to the circular management of this agricultural waste.

ITA’s missions:
- Sharing experience on sustainability for wine production, from plant to grape, using Life Cycle Analysis (LCA)
- Practical case in the Languedoc region for developing a method to quantify and map wine and vine by-products
- Contribution to the knowledge exchange platform, and participation in the multicriteria environmental assessment of agro-waste management plans and solutions tested in the project
Why livestock efficiency and resilience?
In today’s modern animal agriculture there is an increasing need to balance resilience and efficiency. Animals need to be more resilient because future farming conditions will expose them to increasing challenges under different production systems and grazing environments. They also need an ability to recover from challenges like diseases which can vary across environments and farm systems. The problem is that it is still difficult to measure resilience and efficiency on research farms, and almost impossible under commercial conditions.

Developing or improving genomic management tools
GenTORE is developing innovative genome-enabled selection and management tools to empower farmers to optimise cattle resilience and efficiency (R&E) in different and changing environments. GenTORE’s combined research and outreach programme contributes to addressing the challenges facing farming in a changing and volatile world. A web platform has been created in order to link interested actors and disseminate the tools developed.

ITA’s missions:
- Characterisation of livestock systems
- Studying the biological aspects of resilience and efficiency
- Predicting resilience and efficiency
- Developing genomic prediction tools
November 2018 – October 2022
€ 7m
Coordinator: INRA – France
26 partners from 13 countries

Small ruminant breeding for efficiency and resilience

Increasing the adaptive capacity of animals to their ever-changing environment(s) without compromising production, health and welfare

In Europe, small ruminants predominate in difficult environments: mountains/hills, arid, humid or low forage resources areas, where it is difficult or impossible to rear cattle. They contribute to maintaining human populations in these environments where other agricultural production systems are difficult to conduct. They use rangelands and contribute to the maintenance of an open environment, improving biodiversity and preventing fire damage in dry areas. However, small ruminants are usually selected based on standard breeding goals, sometimes not considering genetic-environmental interactions.

An ambitious multi-actor initiative between academic and key non-academic European stakeholder partners

SMARTER uses new and collaborative strategies to improve resilience and efficiency in the sheep and goat sectors at the animal, system/farm and population/breed scales. SMARTER will seek these strategies by: i) generating and validating novel R&E related traits at a phenotypic and genetic level ii) improving and developing new genome-based solutions and tools relevant for the data structure and size of small ruminant populations, iii) establishing new breeding and selection strategies for various breeds and environments that consider R&E traits.

ITA’s missions:

- Contribution to and enhancement of phenotype collection systems in farms or experimental stations
- Contribution to the characterisation of the environmental adaptation of resistant or under-utilised breeds using existing data and the new data generated
- Development of new selection methods for the characteristics of resilience and efficiency
- Development of practical selection tools

http://www.toulouse.inra.fr/Toutes-les-actualites/SMARTER

#SmallRuminants  #Breeding  #Resiliency  #Efficiency
Conservation of animal genetic resources
A quarter of domestic animal races are under the threat of disappearance even though they have a high potential for adaptation to future livestock. As a consequence, the conservation of animal genetic resources is a priority. IMAGE goal's is to enhance the use of genetic collections and to improve the management of animal bank genes (seed, DNA etc.) by developing genomic methodologies, biotechnologies and bioinformatics, thereby obtaining better knowledge and better exploitation of animal genetic resources. So, IMAGE aims to demonstrate that gene banks provide a better sustainability for livestock production systems. These banks could help breeds in their adaptability and ability, in order to make them accomplish their role in the food chain, particularly considering the variability in conditions and circumstances.

IMAGE 4 objectives
More precisely, IMAGE has 4 objectives:
1. Improving the utility of biological materials to respond to environmental constraints and market needs;
2. Minimising genetic accidents as anomalies or genetic variability factors;
3. Optimising the complementarity among ex situ and in situ conservation in order to maximise resources in the future;
4. Using the latest developments in DNA technology and reproductive physiology in collection, conservation and organic resource use. IMAGE has established a dialogue platform (forum), to permit discussions between stakeholders (decision makers, NGOs, companies, researchers, field actors), mainly about the future of gene banks.
Limiting water and nutrient use
SOLACE has a major objective for European agriculture: facing the challenge in the coming decades of a progressively limited use of water and nutrients. To find solutions, the project is focusing on the design of new crop genotypes and on innovations in terms of agroecosystem management. The project’s aim is to improve the use and efficiency of water and nutrients.

Discovering the best performing genotypes in this context
Essentially, the project partners conduct experimentation on three types of crops potato, bread wheat and durum wheat. In particular, based on these three crops and their experiments, actors are targeting the discovery of better performing genotypes with a reduced association of water and nutrients. Moreover, they would like to establish new practices to make better use of interactions between plants or plants/microbes in the access to water or N and P resources.

ITA’s missions:
- Field experimentation
- Management of farm network on conventional durum wheat production
- Studying the impact of Mediterranean climate

Resource management (soil, water, biodiversity...)

May 2017 – April 2022
€ 6m
Coordinator: INRA – France
25 partners from 14 countries

Solutions for improving agroecosystem and crop efficiency for water and nutrient use

solace-eu.net  @SolACE_EU_NET
#Efficiency  #Water  #Nutrients
A coordinated network of RIs to address global issues

With a projected increase in worldwide demand for meat and dairy products, livestock production is vitally important for Europe's future. There is therefore a major challenge for the EU cattle research community to maintain and improve its global leadership. Coordination, harmonisation and access to EU research infrastructure (RI) are essential to support research and innovation, and to contribute to a sustainable, smart and competitive Europe. At the same time, livestock RI is notoriously expensive to equip and maintain. There is a pressing need for a coordinated network of RI combining leading facilities at the EU level.

Easy access to high quality services and resources

SmartCow provides the academic and private research communities with easy access to 11 major RIs in seven countries offering high quality services and resources. It combines skills in animal nutrition, genetics, health and welfare and ethics in animal experimentation.

A transnational access to RIs provides access to experiments and facilitates up to 33 research projects. Networking activities will harmonise and standardise procedures in animal care and measurements, design of experiments, data recording and analysis. Joint research activities will produce refined methods and proxies to evaluate feed efficiency and emissions, develop new protocols to reduce the use of animals or to exploit sensor data for cattle husbandry.

ITA’s missions:

- Mapping of European RI
- Training and study tours
- Stakeholder engagement

smartcow.eu

#ResearchInfrastructures  #EasyAccess
Reduction of contentious input use

European organic farming systems are highly dependent on contentious inputs. This is a problem RELACS wants to address. Its answer concerns the reduction of copper and mineral oils, manure from conventional farms and antibiotic and anthelmintic use in livestock production.

Development of efficient and green tools and technologies

RELACS wants to enhance the development and adoption of economically efficient and environmentally friendly tools and technologies. Project partners are evaluating the current use of inputs in organic farming systems. They are seeking to ensure the effective dissemination and adoption of tools and techniques providing a reduced use of contentious inputs. Vitamin use is also considered in RELACS, with the ambition of using fewer synthetic vitamins and to develop innovative approaches.

The project takes into account the diversity of climates in Europe in its analyses. Through its scientific work, RELACS aims to guide European decision-makers towards regulations to improve current practices in organic farming.

Replacement of contentious inputs in organic farming systems

ITA’s missions:

- Characterising essential oils
- Milk marker analysis
- Bibliographic work
- Co-management of training programme for the dairy farmers involved
- Monitoring trials
- Statistical and bacteriological analysis of results
- Replacement of antibiotics in organic livestock
- Developing an animal health and welfare protocol
- Developing a protocol on essential oil use to replace antibiotics to treat mastitis in dairy cows
- Results analysis and dissemination
Lack of recent and precise data, unsuitable tools
Covering 42% of the European territory, forests are crucial for the European economy. They provide both social and environmental benefits. The management of these forests must be driven by sustainability, following the European Union forestry strategy. However, to ensure such a management, forest managers need recent and precise data. Moreover, the making of traditional inventories is costly and too long (about five to 10 years). To be in accordance with their needs and planning, European forests require more powerful tools, able to annually follow forest extension, tree characteristics and emerging ecosystem services.

Development of decision support tools
MySustainableForest partners are aware of this challenge and aim to develop a pre-commercial service. They also have the ambition of establishing a platform for foresters in order to integrate earth observation in their decision-making process. The project is considering six different climates (Croatia, France, Portugal, Spain, Czech Republic and Lithuania) with different management methods. Finally, it is analysing the economic viability of the service and validating its business model.

In terms of final results, MySustainableForest expects to optimise final users’ operations by 10% and to increase the competitiveness of SMEs in the forest sector.
March 2016 – August 2018
€ 2m
Coordinator: University of agriculture of Athens - Greece
13 partners from 8 countries

Smart Farming Thematic Network

Sustainability and competitiveness
The farming community will have to face an important challenge from now through to 2050: producing food for 9 billion people. In relation with this, other issues are also at stake such as the sustainability and competitiveness of European agriculture. Digital innovations are credible solutions to meeting these challenges and improving farm performance.

Disseminate smart farming technologies
SMART AKIS is a network of various actors involved in European research and innovation, especially on the theme of smart farming technologies. By bringing together farmers, advisers, researchers and technology providers, the project has promoted innovative projects and developed new solutions combining farming and the digital sector. As part of its approach, SMART AKIS has established an inventory of applicable and under development solutions answering farmers’ needs. Dissemination has been targeted in two ways: at the regional level thanks to seven innovation hubs in Europe, but also at the European level with a web platform in which actors can directly place their own solutions (https://smart-akis.com/SFCPPortal/#/app-h/dashboard). This platform has more than 1,000 connections per month and 650 registered users with varied profiles (farmers, researchers, advisers, teachers and industry).

ITA’s missions:

- Technical coordination of workshops in France
- Design of multi-actor innovative projects

Arvalis

- Technical coordination of workshops in France
- Knowledge on the use and assessment of new technologies in arable crops
- Design of multi-actor innovative projects

Acta

- Extensive overview of new technologies in agriculture
- Coordination of multi-actor workshops in France and analysis of European results
- Technical and research recommendations

smart-akis.com  @smart_akis  smart AKIS
#SmartFarming  #DigitalFarming
January 2017 – December 2020

€ 2m
Coordinator: Centre for grassland studies – Germany
20 partners from 8 countries

Shared innovation space for sustainable productivity of grasslands in Europe

Bridging the gap between researchers and field actors
Grasslands are vital for European agriculture. However, there is a crucial need to share knowledge and good practices between researchers and practitioners from the dairy, sheep and goat sectors in order to implement innovations. So bringing grassland research and practice closer together is the main objective of Inno4Grass, which comprises partners and stakeholders from eight European countries. The aim is to facilitate the implementation of innovative systems, moving towards profitable European grasslands which also provide environmental services.

Providing tools for grassland innovation
Inno4Grass is setting up a network of Facilitator Agents to capture and discuss novelties from innovative farms scrutinised via 85 case studies. It takes this capital and upgrades it via a multi-actor approach. A strong dissemination component is being implemented, through national and European events, a European Wikimedia, decision support tools, grassland awards and material to feed existing MOOCs and training programmes. Around 100 written papers and at least 104 videos will be released describing innovative practices. Inno4Grass feeds the implementation of EIP-Agri and connects with existing Operational groups.

ITA’s missions:

- Interviews to identify farmers’ expectations
- Development of new decision support systems
- Farmer training sessions
EuroDairy is a new international network to increase the economic, social and environmental sustainability of dairy farming in Europe, at a time of unprecedented challenge for the sector. EuroDairy fosters the development and dissemination of practice-based innovation in dairy farming, targeting key sustainability issues following the abolition of milk quotas: socio economic resilience, resource efficiency, animal care, and the integration of milk production with biodiversity objectives. EuroDairy spans 14 countries, encompassing 60% of European milk output.

A central role for the sectors
The priority themes have been identified through consultation with farmers and industry, and have a direct impact on the economic, environmental and social sustainability aspects of European dairy farming: resource efficiency, biodiversity, animal welfare and socio-economic resilience. To promote the appropriation of innovations in the field in different production contexts, the project aims to stimulate the creation of 42 EIP-Agri Operational Groups in Europe.

ITA's missions:

- Coordination of the network of 120 innovating pilot farms
- Technical support: efficiency of resources, biodiversity, dairy cattle welfare and health, socio-economic resilience
Four main issues identified
EUFRUIT has identified four main thematic areas to be addressed within its network, in order to stimulate competitiveness and the innovation potential of the European fruit sector: new cultivar development and evaluation, minimising residues on fruit and in the environment, optimising storage and fruit quality and securing sustainable production systems.

EUFRUIT’s research and innovation approach optimises access to knowledge in the sector and avoids redundancy in the different national research efforts.

Diffusion of information and knowledge
Stakeholders in the farming sector have access to updated, ready to use information. The project seeks to gather and analyse state-of-the-art knowledge, summarising national and regional best-practices within the four thematic areas and sharing this knowledge through the EUFRUIT network. Value is created both for the industry with respect to competitiveness, sustainability and efficiency and for society through ensuring the security and safety of fruit, the consumption of which underpins human health and wellbeing.

EUFRUIT may also identify brakes and barriers which currently make it impossible to introduce practices in the field.

Finally, EUFRUIT has established an online knowledge platform: http://kp.eufrin.org/.

ITA’s missions:

- Monitoring the ‘reduction of pesticide residues’ section of the project
- Major expertise: reduction of pesticide residues, plant health, market studies, consumer perceptions etc.
- Diversity of fruit and vegetable species
Healthier plants and animals

Projects in this category have the objective of providing European agriculture with healthier plants and animals. In other words, those projects must have the ambition of increasing the resilience of animals and plants to pests and diseases. DG Agri has put the emphasis on the necessity of developing a large range of tools to prevent, manage and control pests and diseases, in combination with the development of risk management strategies. Research on alternatives to contentious protection and antimicrobial products is favoured. It is also hoped that links will be formed between health and other aspects of production, as well as with other disciplines.
WINETWORK is a knowledge and innovation exchange project between European vineyards seeking to increase the productivity and sustainability of the wine sector. More specifically, WINETWORK allows winemakers and project partners to exchange on grapevine trunk diseases and Flavescence dorée.

**Stimulate knowledge transfer**

The WINETWORK approach is participative and interactive. It is supported by a network of facilitating agents, of regional technical working groups and two European scientific working groups. Thanks to adapted and efficient dissemination tools, WINETWORK hopes to be a catalyst for the transfer of scientific results and practical knowledge towards actors working in European vineyards.

WINETWORK regroups 10 regions from seven countries, representing 90% of European wine production.

**ITA’s missions:**

- Project coordination
- Technical expertise in viticulture
- Communication and knowledge transfer

winetwork.eu

#KnowledgeTransfer #GrapevinesDiseases
Better sustainability and profitability of production systems

IWMPRAISE, as its name suggests, aims to promote integrated weed management as a method to control these plants, often considered as pests. More precisely, it strives to demonstrate that this management offers better sustainability for production systems and better resilience without affecting the profitability or stability of the supply of food and organic materials.

Development of several management strategies

With IWMPRAISE, the objective is to develop, test and evaluate several management strategies considering the specificities of the various crops established in Europe. The project wants to identify the socio-economic and agronomic barriers to using this management approach. Another goal is to highlight alternative control methods and to create a toolbox of validated methods. The economic and environmental sustainability and performance of these management strategies will be demonstrated. Finally, IWMPRAISE is focusing on the dissemination of the results towards end users in order to optimise the implementation of methods.
HealthyLivestock

September 2018 – August 2022
€ 5m
Coordinator: Wageningen University - Netherlands
22 partners from 9 countries

Tackling antimicrobial resistance through improved livestock health and welfare

Same productivity with fewer antibiotics
The ambition of the HealthyLivestock project (in partnership with China) is to reduce the use of antibiotics in pig and poultry farms while maintaining their productivity. It is also interested in controlling the risks of antibiotic resistance and problems in terms of public health. Four levers for animal welfare and health have been identified: biosecurity, improving resilience, early detection of diseases and better targeted use of antibiotics and their alternatives.

Biosecurity, animal behaviour, welfare and health at the core of the developments expected
This project aims to design biosecurity protocols with indicators providing results. It also expects to integrate automated animal behaviour measurement methods. It is focusing on the importance of animal welfare in livestock systems and the actors are also considering medical precision. The economic and social viability of HealthyLivestock innovations is being assessed and private partners will be able to develop promising application tools.

ITa’s missions:

► Reducing the time needed to detect, diagnose and intervene
► Precise use of medical treatments
► Tools to improve health and welfare


#AntibioticUse #Livestock #Pigs
An early warning system for wheat rust diseases

Surge of wheat rust diseases
In 2016, European agriculture was affected by the most important wheat stem rust epidemics in 50 years. Moreover, wheat yellow rust has been replaced by non-European invasive races. Due to this emergency, the RUSTWATCH project aims at to develop an early warning system to improve preparation and resilience against these emerging wheat rust diseases. Several actions are being managed in the RUSTWATCH project: exploration of the factors facilitating the emergence of these new wheat rust populations and an assessment on their impact on productivity, taking into account the Integrated Pest Management context. It will also create research and communication infrastructures based on stakeholder networks, on their expertise and on the collaboration with global networks.

Development of diagnostic tools
It is expected that RUSTWATCH’s new diagnostic tools will be able to easily and rapidly identify new invasive races and their aggressiveness. It also gives strong consideration to phenotypes in order to obtain information at the cellular level about resilience abilities. The plan is to test the early warning system in five case studies per region. This should mean easier implementation, development and validation by stakeholders and farming advisers.

ITA’s missions:
- Phenotyping and genotyping for rust resistance specificity at the seedling stage
- Collection of data on the deployment of resistance genes and contribution to data analysis
- Hosting IPM trials and trials for assessment of rust susceptibility of varieties exposed to natural populations of yellow rust and leaf rust

agro.au.dk/forskning/projekter/rustwatch/

#WheatRustDiseases #Diagnosis
Development of sustainable pesticide management

Pesticide use in European agriculture has some negative effects on human health and the environment. To tackle this, more sustainable and environmentally friendly approaches need to be adopted for pesticide management. This challenge is being taken up by EUCLID, a H2020 project based on a partnership with China. EUCLID has a double ambition:
1. Optimising existing Integrated Pest Management (IPM)
2. Developing new biocontrol agents and promoting their rapid adoption through ready to use IPM solutions and their use by end users. In France, biocontrol is defined as methods of plant protection based on the use of natural mechanisms.

Reducing dependency on chemical pesticides

EUCLID’s objective is to ensure food security in terms of quantity, using sustainable production approaches. The trials on tomato, lettuce and salad provide results which can be generalised for EUCLID stakeholders. This means EUCLID should contribute to reducing the dependency on chemical pesticides in the European and Chinese farming systems the project is studying.

ITA’s missions:

- Efficacy trials using natural-based products against pests in lettuce and tomato
- Studying the efficacy of biocontrol agents
- Assessment of pest management methods and products
- Setting up a demonstration plot in grapevine
- Pesticide residue analysis
- Coordination and organisation of the field demonstration network
- Creating e-training material

euclidipm.org  Euclidipm

#IntegratedPestManagement   #Sustainability
May 2018 – April 2021
€ 2m
Coordinator: Polytechnical University of Catalona - Spain
15 partners from 8 countries

Accelerating innovative practices for spraying equipment, training and advising in European agriculture

Sustainable use of plant protection products
INNOSETA is a European thematic network seeking to accelerate exchanges about spraying and application techniques in the context of sustainable agriculture. The network focuses on application material, equipment, training and innovations to bring research and farmers closer together in order to push forward these practices.

Improving the diffusion of innovative spraying solutions
New ideas and information exchange between industry, research centres and the farming community must permit a larger and more efficient diffusion of innovative solutions, as well as their broader application. INNOSETA’s aim is to regroup in one network all spraying innovations and to disseminate them to farmers. Inversely, INNOSETA must identify needs in the field in order to better orientate R&D work.

ITA’s missions:
- Expertise on spraying in viticulture, spraying innovations census and identifying field needs
- Coordination of network implementation and organisation of regional workshops and transnational conferences
- Research on maximising exchanges between partners and dissemination of project impacts towards the agricultural community, manufacturers and public authorities
Supporting the implementation of innovative practices in pig production

Connecting producers and favouring exchanges between actors
The European Union (EU) is the world’s second biggest producer of pig meat and is the market’s largest exporter. Innovation is a key factor in order to continuously improve the economic viability and sustainability of the EU pig industry. EU PiG specifically aims to more effectively connect producers with the latest science, husbandry techniques and technologies from within their industry via fellow producers, academics and advisers connected through thematic and regional platforms.

8 challenges prioritised each year on 4 main themes
The network includes a range of partners from pig producer groups to researchers and economic advisers. EU PiG shares best practice on four key project themes, identified as the main focus areas for pig producers currently: pig health, meat quality, animal welfare and precision production. Almost 300 producers are engaged in the EU PiG Grand Prix contest that makes it possible to identify best practices. Among them, eight producers are chosen as EU PiG ambassadors and invited to showcase their best practices. Each country also has its own Regional Pig Innovation Group, which links pig producers and other experts to identify emerging issues for EU PiG, and to share knowledge and best practice.

ITA’s missions:

- Participating in expert networks on animals, welfare, health and meat quality
- Census of practices and knowledge developed by the pork industry
- Presence in the project’s regional networks
Through this approach, DG Agri is seeking to obtain through its research projects a better understanding and better use of the ecosystem for primary production. More precisely, it considers the role of biodiversity in the ecosystem in order to improve the resilience of farms and territories against specific threats. So, the development of new systems and methods in European agriculture such as organic or mixed systems can be envisaged. It is also offers the possibility of new forms of agroforestry. Finally, the ecological aspect is strongly involved in this theme, linked to the needs of European forestry and farming.
Supporting the development of sectors based on legumes in Europe

Legumes are not largely cultivated in Europe, which is all the more surprising given their popularity in the rest of the world. LEGVALUE wants to change this situation by considering production systems based on legumes with accompanying improvements in sustainability and competitiveness in feed and food chains. The project is assessing the economic and environmental added-value of legume-based systems. To do so, the project is working on 20 value chains and 20 farm networks representing the diversity of legumes and markets. LEGVALUE aims to provide solutions to each value chain actor using legumes, which would also be beneficial to their economic interests. Finally, the project wants to demonstrate the economic asset that legumes represent.

Fostering the introduction of legumes in crop systems

In terms of results, LEGVALUE aims to provide farmers with tools to identify the most adapted legumes species and management methods for their particular systems and to demonstrate the economic and environmental added-value. LEGVALUE also assesses the more competitive supply chains to foster legume cropping. Thus, the project aims at making recommendations towards European decision-makers about technological topics linked to the development of legumes in Europe. These recommendations also consider the coordination of actors and new trade standards for legumes in order to foster their cultivation in Europe.

ITA’s missions:

- Supporting local sectors
- Expertise in legumes
- Project coordination

legvalue.eu  @LEGumeVALUE

#Legumes  #Diversification
May 2017 – April 2022

€ 10m

Coordinator: INRA – France
34 partners from 11 countries

Characterising and expressing the potential profits of crop diversification at the farm, sector and territorial scales

Productivity, sustainability, ecosystem services
In order to improve farm productivity, to develop the entire expression of ecosystem services and to ameliorate value chain sustainability, DiverIMPACTS has been selected to explore the potential benefits of crop diversification at the farm, sector and territorial scales.

Project stakeholders motivated by 3 common ambitions
1. Evaluating the performances of crop diversification through rotation, mixed crops and multiple crops.

2. Developing key tools for rural actors as well as innovations making it possible to break existing barriers and providing a real collection of diversification benefits for farms, value chains and territories.

3. Proposing recommendations to public decision makers, to improve the coordination of every actor along the value chain. DiverIMPACTS began from experiences that have already been tested, from which it could go further with its own experiences of diversification.

ITA’s missions:

Case study on cropping systems
Organisation of field workshops
Supporting farmers in the design and field evaluation of diversified cropping systems

Network of field experiments testing diversified cropping systems
Designing specific indicators (mainly economic) for crop diversification
Assessing the impacts of diversification for the territory and value chain

Case study on cropping systems
Organisation of field workshops

Assessing the impacts of diversification
Organisation of workshops and events
Communication/dissemination
Increasing societal demand for organic farming

LIVESEED is exclusively interested in organic farming, driven by the search for performance and competitiveness. Both could be found through stimulating actions concerning organic seed and plant breeding. Due to increasing demand for organic food, production has to follow this trend and undergo adaptations. However, this adaptation faces some challenges that need to be overcome (technical difficulties, implementation of European law, lack of organic production programmes etc.).

Several diverse solutions

LIVESEED aims at finding solutions to these challenges. The project partners want to encourage the harmonisation of European rules on organic farming, improve the availability and quality of organic seed, and innovate in terms of production methods on organic farms.

ITA’s missions:

- Expertise on the quality, production and health of organic seed
- Surveys involving organic seed producers and users in France
- Establishing European networks on organic farming
March 2016 - February 2020
€ 7m
Coordinator: Aristotle University of Thessaloniki - Greece
33 partners from 7 countries

Innovation for sustainable sheep and goat production in Europe

Sectors seeking sustainability, efficiency and innovation
The European sheep and goat sectors face unique challenges because they are generally in rural, isolated communities. This provides opportunities because they produce products for human consumption from otherwise unused resources. Therefore, they do not compete with other sectors or industries. Additionally, they face many challenges such as climate change, food security, fluctuating prices, resource use efficiency, shrinking rural populations and farmers becoming discouraged and leaving the sector.

A strong mobilisation of value chain actors
iSAGE is seeking to turn these challenges into opportunities while seeking solutions for the sheep and goat sectors. These solutions will cover most parts of the sheep and goat sectors and will potentially benefit everyone in the value chain: the animal (finding the best way to obtain a healthy and efficient animal), the farm (making it productive and resilient), the farmer (improving quality of life and farm sustainability), the processor (understanding milk and meat production and greater sourcing), the consumer (understanding its demands) and policy makers (supporting European policies).

ITA’s missions:
- Farm typology, socio-economic indicators, sustainability assessment
- On farm and multi-actor surveys, consumer focus groups
- Testing innovations on the farm
- Animal phenotypes for resilience, adaptability, sustainability, local breeds and recommendations
- Communication towards diverse targets

#Sheep #Goat #SustainableProduction
Breeding for resilient, efficient and sustainable organic vegetable production

Supporting the development of organic farming

BRESOV has two main objectives. The first is to develop new varieties for three vegetables (tomato, broccoli and green bean). These new varieties would have to respect the principles of organic farming. The second is to deliver recommendations about organic seed production, both quantitatively and qualitatively, for these three vegetables.

Selection and methods in organic farming for better quality and quantity

To achieve these objectives, BRESOV is exploring genetic bases of essential characters for organic farming. Markers are being established and serve seeds for their selection. New methodologies could be tested in BRESOV to improve the quality and quantity of existing organic seeds. The selection of new varieties will follow certain criteria: adaptability to organic farming, complementarity with other cultivars and positive interactions with soil microbiomes.

In terms of the dissemination of accumulated knowledge, BRESOV is aiming to establish demonstrations, tests and training courses.

ITA’s missions:

- Leading on production of high quality organic seeds
- Enlarging European vegetable genetic bases
- Assessing genetic collections and new tomato varieties
Redesigning cropping systems based on species mixtures

Exploring the benefits of species mixtures
ReMIX is a participative project with the objective of redesigning cropping systems based on species mixtures in order to provide benefits for farmers and the European farming community. ReMIX is trying to produce new knowledge and practical solutions through the exploitation of the benefits of species mixtures. This will create a more diversified and resilient arable production system.

3 species mixtures
ReMIX is aiming to develop more environmentally virtuous systems, which are less dependent on external inputs and adapted to both conventional and organic farming. ReMIX is working on three types of mixtures: cereal-grain vegetable bi-specific cash crops, cereal cash crops associated with non-harvested companion species, and relay intercrops with under-sowing of annual or perennial legume crops in cereals.

ITA’s missions:

- Summarising knowledge on crop-weed interactions in the field
- Analysing the effects of species mixtures on foliar diseases, insect pests and yields
- Defining of key genetic traits in mixed species
- Screening the performance of lines/populations in species mixtures
- Data analysis/proof of concept
- Providing farmers with references and tools to implement intercropping in their cropping systems, notably in organic farming
- Developing a serious game aimed at co-designing cropping systems including intercropping and co-learning within farmer groups
Preserving traditional tomatoes

Tomatoes are the second most consumed vegetable in the European Union and the source of numerous nutrients, vitamins and antioxidants. TRADITOM is enhancing the genetic diversity of traditional tomato varieties, traditional in order to increase their resilience and to avoid their replacement by more robust, higher yielding but less tasty alternatives. Behind this objective, we can also find a desire to improve the competitiveness of traditional tomatoes in local and global markets.

A double approach based on 1,500 varieties

The project, based on gathering together 1,500 traditional tomato varieties, is proceeding through a double approach:
1. The identification of genotypic and phenotypic diversity in traditional tomato varieties and their sensorial traits offering a more appealing taste for the consumer.
2. Overcoming the weaknesses of traditional tomatoes to diseases through breeding and improving their yields without affecting their good sensorial and nutritional traits.

For tomato producers, TRADITOM provides a web platform compiling scientific knowledge about the identity and variability of these tomatoes (cultivation methods, environmental characteristics of producer regions, and new resilient and efficient versions of tomatoes).

ITA’s missions:

- Two experimental centres at the heart of a suitable area for fruit and vegetable production, with sensory analysis laboratory
- Expertise on quality studies
- Expertise on consumer preferences and sensory analyses.

March 2015 – February 2018
€ 4.5m
Coordinator: Higher Council for Scientific Research - Spain
16 partners from 8 countries

Enhancing genetic diversity in tomato

Traditom.eu

#Tomatoes  #GeneticDiversity  #TraditionalVarieties
For a sustainable and quality pig production

TREASURE is a European research project focusing on local breed pork chains in Europe and hoping to find results and solutions that could benefit the sector. Societal and consumer expectations drive TREASURE’s idea and approach: quality and health of pork products, with a regional identity, preserving the environment and concerned by the development of local agroecology.

A global approach

To deal with those expectations, new genomic tools are being used to describe and assess local pig breeds. The assessment of local livestock in TREASURE gives strong consideration to the production system. Feed resource management, with a focus on local supplies, and feed strategies are also at the heart of TREASURE. Traditional product quality as well as the quality of newly established regional products is being assessed. The project partners are also interested in understanding consumer behaviour concerning these two types of product. In this context, marketing strategies are also being considered. Finally, the project is driven by a key word, sustainability, for local pork sectors.

ITA’s missions:

- Summarising the data available on two French breeds: Basque and Gascon
- Collecting material to analyse genetic diversity (Gascon)
- Conducting, with INRA, an experiment to assess the impact of seasonal and natural resources on product quality (Gascon)
- Developing a phenotypic database with regard to the future selection programmes of local breeds
- Contributing to the dissemination of results

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

**April 2015 – March 2019**

**€ 3.5m**

**Coordinator: Agricultural Institute - Slovenia**

**25 partners from 9 countries**

Nor de Bigorre

#PigBreeds #Quality #Sustainability #Local #Traditional
Improving resilience, performance, quality and the use of agroecosystems
DIVERSIFOOD’s main objective is assessing and enriching the diversity of cultivated plants in agroecosystems. The project is seeking to improve their performance, resilience, quality and use. DIVERSIFOOD aims to strengthen the viability of local chains based on a greater diversity in production. The project also wants to strengthen the particular cultural identity of these local chains. This will be supported by pre-existing networks and pertinent European cases. A particular strength of DIVERSIFOOD is its consortium, representing the entire production chain, from genetic resources to marketing. Another ambition of the project is to facilitate cooperation and exchanges between researchers and practitioners. Cooperation with public actors is scheduled, in particular to discuss the international treaty on plant genetic resources and its bargaining over farmers’ rights.

New and coherent socio-economic and environmental diversity
Concerning results, DIVERSIFOOD is planning to establish a new diversity, thanks to innovative production methods involving a greater intra-culture diversification. DIVERSIFOOD is seeking to demonstrate the socio-economic added-value of ‘on farm’ seed systems. Locally and politically, they would like to develop greater environmental and feed awareness. Finally, the project is hoping to obtain tastier and healthier local products emerging from regional production chains supported by networks.

ITA’s missions:
- A study case on seven broccoli varieties under a Breton climate
- Comparison with other studies and identification of alternative varieties
- In charge of communication/dissemination
A need for knowledge and skills in organic farming

As organic farmers require high levels of knowledge and skills, Ok-Net Arable aims to develop knowledge exchange between farmers, advisers and scientists. Currently, these exchanges are rather limited. The aim is to increase the productivity and quality of organic arable crops in Europe.

An exchange platform on organic farming

Farmers are at the core of the project’s approach. They are present in each step of the project and they contribute to the co-creation of knowledge. In creating a European network of innovative farmers and researchers, OK-Net Arable has the ambition of developing and strengthening Europe’s organic sector. This network is accompanied by an inventory of available knowledge in arable organic farming (with tools such as videos, booklets, decision support tools, technical papers etc.) and the best methods in dissemination to farmers. The key to the project is the creation of a web platform for exchanges between peers about materials and knowledge and the possibility of online learning. This platform has five themes: soil quality and fertility, nutrient management, pest and disease control, weed management, cropping systems and specific crops.

The online platform:
www.farmknowledge.org

ITA's missions:
- Identifying and describing relevant tools in French to be available on the platform
- Creating practice abstracts (link)
- Workshops with one group of farmers and one group of technical staff to assess and test some selected tools
- Shared on-farm trials with a group of farmers (link)
Towards 100% organic and regional feed sourcing
OK-Net EcoFeed’s ambition is to help farmers, breeders and the organic feed processing industry in achieving the goal of reaching 100% use of organic and regional feed for monogastrics (pigs, broilers, laying hens and parent stock of broilers and laying hens).
The organic farming market is expanding and has a key objective to close nutrient cycles. However, Europe imports some raw materials in animal feed from distant countries. Moreover, European farmers experience difficulties concerning the procurement of good organic raw materials. Those two realities threaten the existence of organic farming and consumer trust in Europe.

Establishing an exchange platform
The OK-Net EcoFeed thematic network aims to summarise practical and scientific knowledge about the production of food using organic and regional raw materials to feed monogastric livestock. It is building a European network of farmers, industries, researchers and advisers to exchange and co-create knowledge. The development of new tools and a link with EIP-AGRI are also expected. Finally, Ok-Net EcoFeed is an extension of the OK-Net knowledge platform, previously launched by the OK-Net Arable project.

Knowledge network on organic feeding for monogastrics

ITA’s missions:
- Analysing the different support tools for monogastric feed formulation collated by project partners
- Establishing the most pertinent tools and/or development of a European shared tool
- Contributing to the selection of the best tools for pig farmers
- Supporting ITAB in the adaptation of end-user materials and tools for French use
- Assessing existing tools and development of new tools
- Coordination of two working groups (pig and poultry) bringing together French producers and advisers
- French contact for the project
Connecting actors in the wood mobilisation value chain

Sustainability of wood resources
ROSEWOOD is designed to connect actors in the wood mobilisation value chain, from forest owners through to regional authorities, including the forestry industry. This connection should raise answers to the main challenges facing the sector, particularly its sustainability.

Exchanging and sharing innovations, practices and know-how
By bringing together these different actors, the project is seeking to establish regional networks, fostering the sharing of technological and non-technological innovations. It also aims to exchange on cases of best practice and know-how in the sector. The ROSEWOOD project is also concerned with the possibility of developing new partnerships and bringing science closer to practice. The project is also focusing on development and individual skills activities to ease innovation uptake.

ITA’s missions:
- Guiding private forestry management
- Advising and training
- Regrouping private ownership
New openings for rural growth

Under this theme, DG Agri is focusing on projects which seek to stimulate growth in rural areas by identifying factors, dynamics and policies that shape the development of these territories. Societal expectations are increasing for products based on natural resources and rural areas must meet these expectations in order to stimulate their growth and ensure their social progress. In this theme, projects take a territorial view on food and non-food systems and chains. New information and communications technologies must foster rural development and become integrated in a larger strategy of maintaining and stimulating rural economies. Moreover, those projects may consider improving the value of some public goods as well as rewarding the rural communities delivering them.
Establishing a knowledge database (R&D and practices)
Creation of a collection of fact sheets for all partner countries, based on the five iNETs

November 2017 – October 2020
€ 2m
Coordinator: EFIMED – Spain
13 partners from 8 countries

Sustainable forestry management: setting up a network for exchange and innovation on the development and valorisation of non-wood forest products

Challenges for the forest sector
Mediterranean forests are essential for local economies as they deliver numerous ecosystem services and goods. However, despite its real potential, the sector is in crisis: low profits, ageing population, abandonment of farms and land, an increase in devastating fires due to climate change etc. Potential solutions to these challenges exist, in particular those targeting the development and value creation in non-wood forest products, but these need to be relayed and the exchanges between the actors involved require stimulating.

Networking actors in non-wood forest products
INCREDIBLE is seeking to put actors in touch with each other, particularly researchers, decision-makers and producers of non-wood forest products. The project does this through five innovation networks (iNETs) concerning five non-wood forest products which are crucial for Mediterranean regions: resins, cork, aromatic and medicinal plants, mushrooms and truffles, and nuts and berries.
INCREDIBLE summarises and presents the information collected through the iNETs on an interregional web platform. iNET members also exchange through regular transnational seminars. Through this networking, INCREDIBLE is seeking to make it possible to develop innovative business models as well as improvements in the expertise of rural regions on inclusive economic strategies.

ITA’s missions:

- Establishing a knowledge database (R&D and practices)
- Creation of a collection of fact sheets for all partner countries, based on the five iNETs

incredibleforest.net

#NonWoodForestProducts #Networking
Promotion of non-food crops
The ambition of the PANACEA network is to develop non-food crops for the bioeconomy. Knowledge on these crops and their cultivation in Europe is still nears its infancy and PANACEA aims to share the first feedback from both producers and biomass users, and communicate near-to-practice recommendations.

Inventory of results and impact analysis of these crops
PANACEA aims to develop an inventory regrouping scientific results about those non-food crops, analysing their potential impact on rural renaissance. The needs of producers and the industry have been identified thanks to a survey and will be discussed in regional, national and European events in order to identify development paths and training needs for stakeholders. A web platform is being developed to compile these previous elements, to create service and networking capacities, and to share and link various opportunities in EIP-AGRI and Operational Groups to expand the results of the project.

ITA’s missions:
- Building a training session for farmers, agronomists and students
- Exploiting references on perennial crops
- Extending the French technological network on biomass and territories
- Communication/dissemination
- Links with EIP-AGRI

The partnership with Terres Univia, the interbranch association for vegetable oils and proteins, focuses on oil crops for biorefineries, an ambitious path with many stakeholders in France.
Cereal renaissance in rural Europe: embedding diversity in organic and low-input food systems

An answer to the crisis in the traditional model
CERERE aims to foster innovation processes within the European cereal community. Confronted with a crisis in the traditional farming model, CERERE positions itself in favour of establishing organic or low-input cereal systems. CERERE regards these systems as local and based on short channels. Diversity in farming systems and agrobiodiversity are key to providing better resilience and adaptation to the diversity of approaches and actors in the chain (fabrication and marketing etc.).

Knowledge transfer and recommendations
CERERE disseminates existing and established best practices, research results and innovative solutions for organic and low-input cereal systems. Considering the field and its actors and to then help shape information for European decision-makers, CERERE is aiming to identify and highlight key questions (soil fertility, rotation use, crop protection strategies etc.) for the sustainability of these systems, as well as possible opportunities. With various targeted actor groups, adapted instruments will be used including policy recommendations, technical manuals, multimedia tools, local and international events, field visits etc. This could foster exchanges and innovation among actors.

ITA’s missions:
Based on local projects (in Pays de Loire and Poitou-Charentes) concerning the study of innovative practices in bread-making

November 2016 – October 2019
€ 2m
Coordinator: Reading University - United Kingdom
13 partners from 9 countries

cerere2020.eu  cerere2020  Cerere Project

#Cereals  #KnowledgeTransfer
The aim of those projects is promoting and stimulating innovation, thereby fostering rural development and growth in rural areas. The activities of the projects focus on competencies, the human and social capital of farmers, foresters and inhabitants in rural areas. They can also focus on the functioning of AKIS (Agricultural Knowledge and Innovation Systems) to stimulate innovation. To optimise project results and in line with DG Agri expectations, these projects consider all the actors in supply chains and the rural economy. Finally, where appropriate, links may be established with urban areas.
Networking European farms to enhance knowledge exchange and innovation uptake through demonstration

10 thematic networks and 45 regional hubs
NEFERTITI is a unique project establishing 10 thematic networks covering three important farming sectors: animal production, arable crops and horticulture. Within these 10 networks there are 45 regional hubs structured around farmers and stakeholders from diverse backgrounds (advisers, NGOs, industry, education, researchers and decision makers).

Stimulating innovation and uptake through demonstration
The project chose to stimulate innovation, its adoption and knowledge exchange between actors through demonstration activities on commercial or experimental farms. This project establishes a web platform, offering broad dissemination of the demonstration farms directory and knowledge provided by the demonstrations. Moreover, a political dialogue will be held within the EU regions in order to bring farmers’ expectations and interests closer to political decision makers. This will optimise the sustainability of these networks.

ITA’s missions:

- Training of demonstration farmers
- Coordination of the ‘Grassland and carbon sequestration’ network
- Monitoring of regional groupings (hub)
- Follow-up and assessment of demonstration activities

- Coordination, management and communication
- Agricultural Knowledge and Innovation Systems (AKIS) specialisation
- Coordination of the ‘Reducing pesticide use in the production of grapes, fruits and vegetables’ network
PLAID is a project to stimulate innovation in agriculture through knowledge exchange between peers (farmers and advisers). These exchanges are stimulated through demonstration activities on commercial farms. The main objective of the project is to support an easier circulation of innovation, an enhanced exchange between peers and demonstration activities closer to field realities.

The project aims to identify best practices and innovative approaches in the matter of demonstration, trying to understand practices in different European countries. More precisely, the key question is how we successfully achieve demonstration activities, in order to reinforce and develop them.

The first step for PLAID is to create a geo-referenced inventory of demonstration farms in 30 countries.

**PLAID/NEFERTITI collaboration**

PLAID is working in close cooperation with the NEFERTITI project (as well as AgriDemo), both based on demonstration activities to enhance the development and adoption of knowledge, innovation and peer-to-peer learning. NEFERTITI will build in particular on the expected results of the PLAID project and works closely with its partners.

**ITA’s missions:**

- Creating the inventory of demonstration farms
- Thinking about demonstration methodology thanks to case studies
- Inputs from the SYPPRE platform (national project)

- Good practices coming from livestock networks (INOSYS)
- Know-how in demonstration activities
- Communication/Dissemination
- Development and analysis of concrete demonstration cases

- Communication/Dissemination
May 2018 – October 2021
€ 5m
Coordinator: Eberswalde University - Germany
17 partners from 15 countries

Better rural innovation: linking actors, instruments and policies through networks

Optimising interactive innovation project approaches
The European Union has identified the need to stimulate rural renaissance. LIAISON is one of the projects participating in this desire, focusing on interactive innovation projects in agriculture, forests and rural areas. Based on feedback from nearly 200 projects and a detailed analysis of 32 projects, LIAISON partners are assessing multi-partner and interactive innovation processes within Horizon 2020 and rural development programmes.

Diffusion of tools and collective learning methods
LIAISON highlights the diversity of projects and practices through a mapping of innovation processes. Based on their critical analysis, the project produces and disseminates ready-to-use methods as well as protocols and tools co-designed with end users. The inventory covers tools and methods for co-creation and co-learning, communication and dissemination, impact assessment and self-evaluation. The project focuses on describing best practices from H2020 multi-stakeholder projects, thematic networks, operational groups and other initiatives contributing to the implementation of EIP-AGRI.

ITA’s missions:
- Support in terms of process methods and tools
- Understanding and optimisation of the use of co-creation and co-learning methods
- Creating a practical guide
- Analysis of French cases
- Contribution to the general summary

@liaison2020
#BetterRuralInnovation #InteractiveProjectAssessment #innovation
Best practices and innovation support services

Facing the challenge of failures in innovation processes
Observing numerous failures in innovation processes, the AgriSpin project tried to find solutions to these problems and to identify best practices for innovation in agriculture. By establishing a European network, the project searched for the diffusion of accumulated knowledge from researchers, entrepreneurs and farmers in order to enhance the emergence of innovations within European farms. Indeed, innovation is the lever for the sustainable development of farms. AgriSpin explored change management practices in several European regions. The project organised field visits, stimulated dialogue and mutual learning to collectively analyse innovation process steps and the different roles in innovation support services. Professionals in innovation systems participated and studied the selected case studies to disseminate promising experiences.

Enhancing participative approaches, avoiding the linear view of innovation…
As the project is now over, some lessons can be learned from AgriSpin. In the scientific field, a participatory approach has made it possible to prioritise research topics and ensure that they are linked to farmers’ needs. It was also pointed out that public authorities often analyse an innovation project according to a certain linearity which does not leave room for the acceptance of failure. Many other lessons have been learned and can be found in the project material.

ITA’s missions:

- Involved in cross-visits of organic farming innovation cases in Germany and Italy, co-construction of an analysis framework
- Involved in final workshops to capitalise on the different visits,
- Involved in the exploitation and dissemination of results

Collaborative creation of cross-visit methodology
- Organisation with CIRAD of a cross-visit in Guadeloupe (RITA: R&D network in West Indies)
- Participation in six other cross-visits: Belgium, Netherlands, Italy, Spain, Germany, Ireland
- Contribution to recommendations and dissemination of results (internally and externally, through SWG AKIS4, French Consultative Committee of EIP-AGRI)
### Technical Institutes and their agricultural sectors in H2020 projects

<table>
<thead>
<tr>
<th>Agricultural Technical Institutes</th>
<th>IDELE</th>
<th>IFIP</th>
<th>ITAVI</th>
<th>ARVALIS</th>
<th>Terres Inovia</th>
<th>FN3PT</th>
<th>ITB</th>
<th>VEGENOV</th>
<th>IFV</th>
<th>ITEIPMAI</th>
<th>IDF</th>
<th>CTIFL</th>
<th>ASTREDHOR</th>
<th>IFC</th>
<th>ITAB **</th>
<th>ACTA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agricultural sectors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Horizon 2020 projects</strong></td>
<td>Sheep/goat</td>
<td>Beef</td>
<td>Pig</td>
<td>Poultry</td>
<td>Cereals, corn, Potatoes</td>
<td>Oil and protein crops</td>
<td>Potato plants</td>
<td>Beetroot</td>
<td>Plant biotechnology</td>
<td>Vine &amp; Wine</td>
<td>Perfume plants</td>
<td>Forest</td>
<td>Fruits/vegetables</td>
<td>Horticulture</td>
<td>Cider apple</td>
<td>Organic farming</td>
</tr>
<tr>
<td>AgriSpin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRESOV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CERERE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIVERIMPACTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIVERSIFOOD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EUCLID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EUFRUIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EUPIG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EURODAIRY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed-a-Gene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GenTORE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HealthyLivestock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMAGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INCREDIBLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INNOSETA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inno4Grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IoF2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISAGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IWMPIRAISE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEGVALUE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIAISON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIVESEED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MySustainableForest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Technical Institutes</td>
<td>IDELE</td>
<td>IFIP</td>
<td>ITAVI</td>
<td>ARVALIS</td>
<td>Terres Inovia</td>
<td>FN3PT</td>
<td>ITB</td>
<td>VEGENOV</td>
<td>IFV</td>
<td>ITEIPMAI</td>
<td>IDF</td>
<td>CTIFL</td>
<td>ASTREDDHOR</td>
<td>IFPC</td>
<td>ITAB **</td>
<td>ACTA</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>---------</td>
<td>--------------</td>
<td>-------</td>
<td>-----</td>
<td>---------</td>
<td>-----</td>
<td>----------</td>
<td>-----</td>
<td>------</td>
<td>------------</td>
<td>------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Agricultural sectors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Horizon 2020 projects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep/goat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pig</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cereals, corn, Potatoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and protein crops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potato plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beetroot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant biotechnology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vine &amp; Wine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfume plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruits/vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cider apple</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organic farming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transversal challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEFERTITI</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NoAW</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ok-Net Arable</td>
<td></td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ok-Net Ecofeed</td>
<td></td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PANACEA</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLAID</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RELACS</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REMIX</td>
<td>**</td>
<td></td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROSEWOOD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUSTWATCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SheepNet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMART AKIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SmartCow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMARTER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOLACE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRADITOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TREASURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WINETWORK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Presentation of the Agricultural Technical Institutes

About Acta: Agricultural Technical Institutes
Agricultural Technical Institutes (known by their French initials, ITAs) are professional tools for applied research and transfer, specialised by sector (field crops, livestock, fruit and vegetables, viticulture, specialised production (horticulture, medicinal plants, tropical plants, algae etc.), organic agriculture).

Acta, leads this network, bringing them together and promoting their expertise in the field and their unique know-how in France and abroad. Collectively, this network is a model for supporting competitive and sustainable innovation and amplifies value creation within territories, agricultural sectors and agro-industrial companies.


Europe Contact:
Adrien Guichaoua, europe@acta.asso.fr

Communication contact:
Marie Sela-Paternelle, communication@acta.asso.fr
ARMEFLHOR - Association Réunionnaise pour la Modernisation de l’Economie Fruitière, Légumière et Horticole

The ARMEFLHOR ITA is part of Acta’s RITA institutes network (agricultural innovation and transfer networks) covering France’s overseas territories. An associative structure, it was created by professionals in order to contribute to the improvement of the performance and competitiveness of horticultural companies in Reunion. It has been supporting those working in the sector for around 25 years and manages experimentation on new techniques to develop the fruit, vegetable, horticultural and organic farming sectors and improve crop protection in tropical areas.

Management contact: Guillaume Insa, insaguillaume@armefhlor.fr

ARVALIS - Institut du végétal

ARVALIS - Institut du végétal is an agricultural applied research organisation financed and managed by cereal, potato, flax, tobacco and forage producers, with the support of inter-professional and research funds. The institute’s 400 collaborators conduct more than 2,200 agronomic trials each year and are involved in around 150 research projects involving more than 500 partners. ARVALIS-Institut du végétal supports and advises through its training activities and the provision of decision support innovative tools

Europe contact: Florence Leprince, f.leprince@arvalis.fr

ASTREDHOR - l’Institut technique de l’horticulture

ASTREDHOR designs and implements research programmes and innovation to improve the technical, economic and environmental performance of horticultural, florist and floricultural and landscaping companies. This horticultural technical institute has State approval since 2008, and boasts more than 100 employees across 10 experimental stations, conducting applied research programmes at regional, national and international scales. ASTREDHOR’s research activities provide support services and expertise to companies and 1,100 members.

Europe contact: Fabien Robert, fabien.robert@astredhor.fr

CEVA – Centre d’étude et de valorisation des algues

CEVA is a technological transfer and innovation centre specifically dedicated to algae and aquatic plants. Thanks to its double qualification as an Agricultural Technical Institute and Agro-food Technical Institute, it offers an adapted response (advice, monitoring, training, auditing, experimentation, R&D etc.) meeting the needs of stakeholders and professionals in the sector, notably on sanitary and food security, sourcing security and supply quality of raw material. It conducts applied research on micro-algae and aquatic biotechnologies, and manages scientific and technological knowledge transfer towards the industry in order to enhance the development of new markets. In 2018, CEVA has 25 staff, including 19 researchers and engineers.

Management contact: Stéphanie Pédron, stephanie.pedron@ceva.fr
CTIFL - Centre technique interprofessionnel des fruits et légumes
CTIFL seeks to improve techniques and innovation development across the fruit and vegetable sector. It ensures technological transfer to those working in the sector and supports company efficiency. It analyses the sector and markets and informs professionals through the creation of useful technical, economic and regulatory publications. It monitors partnership actions with research, education, professional and inter-professional groups. In 2017, CTIFL had 281 staff, 234 of them permanent.

Europe contact: Catherine Lagrue, lagrue@ctifl.fr

FN3PT - Fédération nationale des producteurs de plants de pomme de terre
Along with its producer regional organisations (Bretagne Plants and committees in northern, central and southern France), FN3PT conducts research and development seeking to develop innovation and reinforce the quality and productivity of French potato crops. This R&D technical organisation brings together 61 engineers, researchers, breeders and technicians and regroups the potato plant production sector and its regional producer groups (OP). FN3PT/OP are in charge of the technical improvement of French plant quality, developing production and promotion.

Europe contact: Bernard Quéré, bernard.quere@fnpppt.fr
Yves Lehingrat, yves.lehingrat@fnpppt.fr

IDF - Institut pour le Développement Forestier
IDF is the research and development service of CNPF. Its activities aim to reassemble new scientific knowledge to build decision support tools for foresters and knowledge diffusion.
It bases its activities around trees and forests: forestry and climate change adaptation, wood economy and services (water, carbon sequestration and maintaining biodiversity), management of hedges and ornamental trees, afforestation of abandoned agricultural, agroforestry and specific environmental specific aspects. IDF multiplies its actions through training (thematic or on demand internships) and publishing (practical manuals, Flore forestière and Forêt-entreprise journals). It currently employs 24 engineers and technicians.

Europe contact: Clotilde Giry, clotilde.giry@cnpf.fr

Idele - Institut de l’Élevage
Institut de l’Élevage’s actions follow a general mission to provide innovation and compile knowledge, including economic, in the horse, sheep, goat and cattle sectors. Its activities, studies, experimentation, engineering, advice and training are designed to improve farm competitiveness, to adapt production and livestock systems to societal expectations and, finally, to meet the sector’s expectations on product processing and quality processes. It has 267 staff, of which 206 engineers and 25 technicians are involved daily in the institute’s activities.

Europe contact: Florence Macherez, florence.macherez@idele.fr
Ifce – Institut français du cheval et de l’équitation

The French institute for horses and equitation is the public operation supporting the equine sector. Its actions are deployed across the French territory to benefit all the publics concerned with horses and equitation. Besides its traditional activities, notably sanitary security and zootechnical traceability of horses, its role as a technical institute concerns the organisation of technical, economic and social data, the development of applied research, transferring and dissemination of results and professional training and the exploitation of France’s equitation heritage.

Europe contacts: Marion Renault, marion.renault@ifce.fr
Florence Macherez, florence.macherez@idele.fr

IFIP - Institut du porc

IFIP-Institut du porc is the technical tool for all French pig sectors, from the artisanal through to industrial processors, working on genetics, feeding, slaughter and breeding. It answers the economic needs of actors by contributing to the modernisation, competitiveness and sustainable development of the pork sector as well as the supply of diversified, healthy and quality products for consumers. IFIP-Institut du porc is composed of 85 staff of which around 50 engineers, divided across four R&D hubs: economy, meat and charcuterie, livestock techniques and genetics.

Europe contacts: Michel Rieu, michel.rieu@ifip.asso.fr
Florence Macherez, florence.macherez@idele.fr

IFPC - Institut français des productions cidricoles

IFPC is the applied research institute working for the French cider sector. It conducts research and innovation programmes for the benefit of businesses in the sector, ranging from agricultural production to processing, with the objective of enhancing competitiveness and sustainable development. It is recognised for its excellence through the official qualification of Agricultural Technical Institute (ITA) and Agro-industrial Technical Institute (ITAI). Fifteen highly qualified staff, based on two stations, contribute to the institute’s missions, which comprise in particular the creation of technical references, the development of innovations and the coordination of partners in collective research and development programmes.

Europe contact: Yann Gilles, yann.gilles@ifpc.eu

IFV - Institut français de la vigne et du vin

The French institute for vine and wine is a scientific and technical organisation supporting all actors in the wine sector, benefiting from the double qualification of Agricultural Technical Institute and Agri-food Technical Institute. IFV is one of the main actors in the national agricultural rural development programme and its research and innovation structural policies over the 2014-2020 period. The 140 IFV staff (ampelographers, agronomists, geneticists, oenologists and microbiologists) develop their work in around 20 units across France’s various wine production areas.

Management contact: Jean-Pierre Van Ruyskensvelde, direction@vignevin.com
Europe contact: Eirios Hugo, eirios.hugo@vignevin.com

ITA labelled in 2018
ITAB - Institut technique de l’agriculture biologique
ITAB is a structure dedicated to the national coordination of research and experimentation in organic farming, managed by professionals. It has more than 20 permanent staff that, alongside other structures, contribute to highlighting the fundamental necessity for the recognition and development of organic farming and the need to bring together expertise and develop techniques adapted to organic agrosystems. Its three main roles are built around the coordination of the national organic farming research-experimentation network, establishing national projects and the production of technical knowledge.

Europe contact: Frédéric Rey, frederic.rey@itab.asso.fr

ITAVI - Institut technique des filières avicole, cunicole et piscicole
Since 1968, the ITAVI applied research organization has addressed issues and needs in the poultry, rabbit and fish sectors.
The institute seeks to meet their expectations in terms of research and development. It provides expertise and tools to anticipate and adapt to structural changes. At the interface between fundamental research and the field, the institute plays the role of innovation activator. Teams are spread across France and partnerships consolidate the sectors development. ITAVI gathers experts around nine particular competences: economy and foresight, animal feeding, welfare, environment, product quality and precision livestock.

Europe contact: Isabelle Bouvarel, bouvarel@itavi.asso.fr Florence Macherez, florence.macherez@idele.fr

ITB - Institut technique de la betterave
ITB is the agricultural applied research organization for the sugar beet sector, including beet growers and manufacturers of sugar and alcohol. In accordance with societal and environmental expectations, it leads studies on four main themes: genetics and varieties, weeding, pests and disease, and agronomy and agricultural equipment. In addition to its headquarters in Paris, ITB has an experimentation centre in Le Griffon (02) and eight regional delegations. This means that more than half of ITB’s 40 employees are located as close as possible to beet growers.

Europe contact: Orianne Marchal, o.marchal@itbfr.org

ITEIPMAI - Institut technique interprofessionnel des plantes à parfum médicinales et aromatiques
ITEIPMAI is a professional research organisation, recognised by the Ministry of Agriculture, for the perfume, aromatic and medicinal plant sector and certified by the Ministry of Research. It includes 25 permanent staff of which 12 are engineers and managers. It conducts finalised applied research supporting the aromatic, medicinal and perfume plant sectors. Its main technical activity aims to improve farmers’ incomes and to secure it in the longer term, making it possible for agricultural and industrial companies to achieve sustainable development and generating trust and guarding the welfare of consumers.

Europe contact: Benjamin Lemaire, benjamin.lemaire@iteipmai.fr
The IT2 tropical technical institute was created by those working in the banana sector in Guadeloupe and Martinique. It brings together 15 professional groups from both islands working in banana and other crops for diversifying production. IT2 works in Guadeloupe and Martinique, and on the French mainland to support its team and establishing collaboration agreements with public research groups and other partners. IT2 works mainly on behalf of producers within its particular areas of competence: innovating crop systems, varietal improvement, plant health improvement, quality approaches, and assessment and management of environmental impacts. IT2’s operational team comprises 10 engineers and technicians.

Management contact: Patrice Champoiseau, p.champoiseau@it2.fr

Terres Inovia

Terres Inovia is the reference Technical Institute for those working in oil and protein crops and the hemp sector. Its mission is to improve the competitiveness of oilseed and protein crops and hemp, through innovation and independent advice, and by adapting agricultural production and downstream uses to different economic contexts and societal demands. Each year, its 170 employees are involved in 25 national and international networks, launch 25 new collaborative projects, co-ordinate a network of more than 600 trials, publish 300 articles and organise 200 technical meetings.

Europe contact: Etienne Pilorge, e.pilorge@terresinovia.fr

Other applied research structures in Acta’s network (linked to an ITA or Acta)

AGPH

AGPH is an association bringing together the entire French hop production sector, seeking to help French hop producers manage the production of a quality raw material meeting qualitative requirements and the expectations of clients, and to ensure their marketing is economically profitable.

Its main fields of action are:
- Hop plants and cultivation techniques, development of new varieties and regional adaptations
- Production systems and technological innovations, experimentation with new cultivation techniques, materials and equipment
- Quality management, treatment techniques and programmes, sustainable approaches
- Information, communication and dissemination

Contact Direction: Francis Heitz, francis.heitz@comptoir-agricole.fr
ANIFELT
The National Interprofessional Association of Processed Fruits and Vegetables brings together professional organisations in the processed fruit and vegetable sectors. It makes it possible to organise the relations between agriculture and the processing industries in a joint framework. ANIFELT represents 6,500 producers and 78 factories and, more generally, makes it possible to implement collective actions to improve the competitiveness of these sectors (research, advertising, economic studies etc.).

ARTB
The Association de Recherche Technique Betteravière (ARTB) seeks to conduct, promote and coordinate research and development projects focusing on:
- Exploitation of sugar beet
- Exploitation of beet pulp
- Expanding the opportunities for beet and pulp
- Economic analysis
Its work is partly subsidised by the French Ministry of Agriculture and Fishing as part of the National Programme for Agricultural and Rural Development.

CNPMAI
The Conservatoire National des Plantes à Parfum, Médicinales, Aromatiques et Industrielles (CNPMAI) is a tool created by producers to support those working in the perfume, aromatic and medicinal plant network (PPAM).
This organisation, unique in France, combines agronomy, botany and pedagogy to tackle the following activities:
- Preserving the large genetic diversity of PPAM (France and Europe)
- Exploiting and providing adapted, new, improved or clearly identified plant material to users
- Participating in the protection of France’s natural heritage (particularly threatened species)
- Raising awareness among all publics of the richness of PPAM and the importance of preserving biodiversity.

CRIEPPAM
For more than 20 years, CRIEPPAM has conducted experimentation and provided support to perfume plants producers (lavandin, lavender and clary sage) and dried aromatic plant producers in Southeast France.
Experimentation is conducted in close partnership with ITEIPMAI, CNPMAI and technicians in the sector (Chambers of Agriculture and Producer Organisations). Research and experimentation on machinery and processing plants are specific activities CRIEPPAM conducts for the perfume, aromatic and medicinal plant sector, integrated within the network coordinated by ITEIPMAI.
La FNAMS (Fédération nationale des agriculteurs multiplicateurs de semences)

From seed planting to harvesting, FNAMS studies and develops the best technical and economic management plans to produce quality seeds and improve the profitability of production. The work focuses on four species: forage plants, vegetables, cereal and protein crop seeds and industrial beet. Research programmes are defined in accordance with GNIS’s sectional groups, within the framework of the GNIS sections, by representatives of seed producers and companies and with the participation of ARVALIS - Institut du végétal. The technical team comprises 18 engineers and 11 technicians working across seven experimental sites.

ITSAP - Institut de l’abeille

ITSAP - Institut de l’abeille offers national coordination of research and experimentation work in apiculture: improving the health of bee populations, improving the genetic potential of bee populations, optimising the services bees provide to agriculture, establishing traceability systems and steering a technical-economic observatory on apiculture. It comprises 11 engineers and permanent managers and brings together regional apiculture development groups and specialised groups (royal jelly producers - GPGR, queen breeders - ANERCEA).

Europe contact: Axel Decourtye, axel.decourtye@acta.asso.fr

VEGENOV – BBV

Vegenov, linked to CTIFL and working in a complementary fashion with the national institute, provides advisory and applied research services to plant companies. Vegenov’s key competencies (molecular and cellular biology, microbiology and agronomic experimentation and nutritional and sensory analyses) are applied to all types of species making it possible to respond to three research and development objectives:
- Supporting companies in varietal creation programmes
- Optimising protection systems and plant nutrition
- Improving the quality of plants

Management contact: Serge Mabeau, mabeau@vegenov.com
41 H2020 European research and innovation projects for a productive and sustainable agriculture