Newsletter No1. September 3, 2018

Contents:

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

1 WHAT'S IT ALL ABOUT: AN INTRODUCTION TO LEGVALUE

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

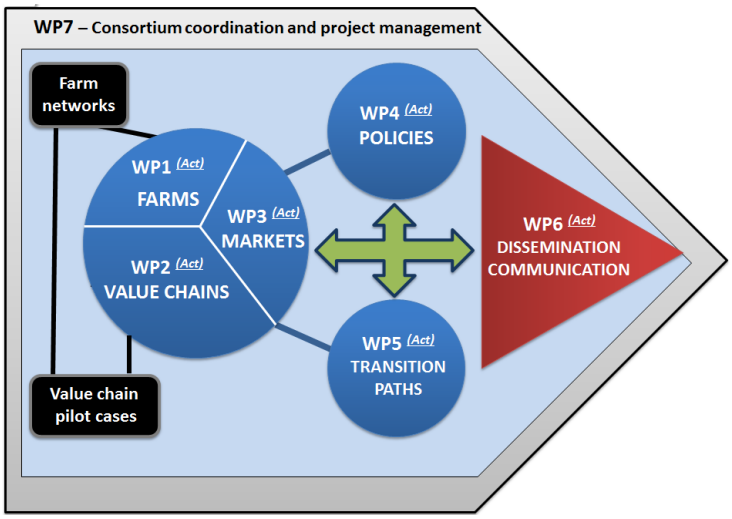
Using a list of at least 32 value chains reflecting the market diversity, and at least 20 farm networks covering the diversity of grain legumes and fodder legumes species, LegValue will demonstrate the added value of various legumes value chains and will provide a range of solutions to improve the economic interest of each actor involved in the value chains to use legumes.

A key feature of LegValue is an approach to research that takes stakeholder-driven objectives. The gap between research and practice will be overcome with close collaboration between non-academic actors and scientists.

LegValue will result in the first decision tool for farmers to choose the optimal legume species with their adapted crop management and to assess the economic and environmental benefits of legumes in the cropping and grassland systems.

LegValue will contribute to identifying the supply chains that are the most competitive to foster legumes crops so helping the EU to identify:
i) the technological topics that must be supported in priority to enhance legumes development;
ii) insights into how to support actor's coordination for better added value sharing; iii) the new standards that will help the trade and processing of legumes.

LegValue will provide accurate recommendations for the development of legumes in the EU. By removing current market opacity and the design of transition pathways, LegValue will provide scientific support for EU and national policy-makers directed at increasing legume production, support technological innovation and organisational innovation in supply chains, meeting the EU Parliament 2011 motion on increasing self-sufficiency on protein rich plant materials.



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

2 GETTING INVOLVED: KNOWLEDGE EXCHANGE AND COMMUNICATIONS

A website has been established as the primary means of publicising the activities and outputs of the LegValue project.

www.legvalue.eu was launched within the first half of the first year and set out the project goals and objectives together with detailed plans of the work packages (http://www.legvalue.eu/about-the-project/work-packages/) and the partners (http://www.legvalue.eu/about-the-project/consortium-members/) involved in their delivery.

News of LegValue related events (http://www.legvalue.eu/news-and-events/) are first publicised there and news and diary dates for other legume related events and activities are published there too where and when they become aware to the site managers.

A stakeholder directory (http://www.legvalue.eu/stakeholder-directory/) forms the core of the website. This is free to access and join to anyone with interests in legumes in Europe. This is not restricted to project partners or researchers, the involvement of growers and all those active within the greater supply chain is being encouraged. The aim is to produce a network of players in the legume industry using LegValue as forum - a connected network for research and business in the long term. In its early stages of development this could form the back bone of a legume interest community legacy when the project finishes in 2021.

Industry studies (http://www.legvalue.eu/industry-studies/industry-studies-by-country/) that are forming the core of the research project are outlined on the website. A searchable map outlines where the studies are taking place and under each study documents and outputs relevant to those studies will filed for public access. There are already a number of documents summarising the studies located there.

Publications (http://www.legvalue.eu/publications/) that are relevant to a legume interested audience are also to be found on the site. Primarily these will be documents that are generated by the project but links to downloads from other sites, projects and publishers will also be located there when they become known to the project.

Over time there have been a number of EU projects looking at legume cultivation and development. Others are still under way. Links to these projects and their outcomes and to other relevant organisations can be accessed via the useful links page (http://www.legvalue.eu/useful-links-to-research-projects-and-industry-forums/) If you know of other projects or useful repositories of relevant information or content that could add to the value of the site please get in touch and feel free to make your contribution to the project. Whilst the main site is published in English there is absolutely no barrier to linking to sites, documents or information sources or reference points in other languages. Just let us know where they are (http://www.legvalue.eu/contact/)

The social media site “twitter” is also carrying news of the LegValue project and its links to other crop diversification and value chain study projects. You can follow @LEGumeVALUE to keep up to date.

The Leg Value project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 727672.

3 WHAT'S GOING ON? ACTIVITY TAKING PLACE WITHIN THE PROJECT

A short overview of the current research activities undertaken by the partners of LegValue.

On-farm assessments (WP1)

The performances and the agro-ecosystem services related to legume cultivation is being assessed, collaborating with 23 on-farm networks (OFNs) across Europe. The scope of the task is to produce a comprehensive database, where agroecosystem services will be listed and quantified with data coming from the OFNs.

A literature review will study the current scientific knowledge on the provision of ecosystem services by legumes, and will fill the data gaps, if any, in the database.

During the first year of the project, we've acquired preliminary information on the 23 OFNs (legume species cultivated, type of management, end use, number of farms etc.). Secondly, we've defined, in collaboration with the WP leader, an interview protocol, and we've asked the OFN leaders to interview some of the farmers involved in the OFN. The interview had the scope to provide information on legume yields and yield variability, farmers' preferences for growing legumes, and current farming practices. Lastly, we've created the structure of the database that will contain the data derived from the OFNs. An example is given below:

Step 1: Agroecosystem service/disservices	*Sub-service/disservices*	*Objective*	*Step 2: Technical solution*	*Species*	*Step 3: Indicators*	*Step 4: Parameters (evaluation)*		*Reference point*	*Level of analysis*
						Analytical parameters (TBD)	*Synthetic parameters*		
2. Weed, pest and disease suppression	Weed suppression	Improve weed suppression	One extra crop in the rotation/Intercropping/Cover cropping	Legume species	Weed abundance	Detailed weed samplings (density, biomass, composition, etc.)	Field qualitative assessments/Visual detection	Non-legume farming system/Previous situation when legumes were not present	Indicate if analyzed at field/rotation/farm/OFN scale

During the second year, we will start gathering data already available from the OFNs and will organize field trials for data still to be collected. By the end of the year, we will finalize the literature review on ecosystem services related to legume cultivation.

Mapping the cultivation area of legumes in the EU

The task 1.2 of Leg Value is aimed at producing a map of potential yields achievable by legumes in Europe under different soil climate conditions. To do that, the partners committed to the task are retrieving data on the yields of legumes (both fodder and grain legumes are included, with distinction between pulses and feed grains) from each country. The most important source of information exploited so far is the on-farm networks presented by each partner. To date, 15 different OFN are being explored for linking yield data with soil and weather characteristics. The OFN cover a relevant portion of EU territory, ranging from Portugal to Baltic region. The legume species represented in the networks are mainly pulses (chickpea, pea, chickling pea (Lathyrus sativus), vining pea, lentil, soybean, faba bean) but also some fodder legumes (*e.g.* clovers, alfalfa, vetch) are represented. To complement these data and to enlarge our view on legumes grown in the EU, additional sources of information

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

(official statistics, linked research projects, grey literature, expert elicitation) will be explored by the end of 2018.

In the next two years the partners of the task will carry out field trials at each partner site to produce missing data on yield, agronomic performances and agroecosystem service provision of legumes that could be potentially grown at their site but that are not because of reasons other than agronomical ones. Specific crop management techniques (*e.g.* weed control, different varieties, fertilization strategies) will be also tested within these trials.

The outcomes of this basket of activities will feed a statistical model improved at INRA by Nicolas Guilpart aiming at producing yield maps of the most important legumes including species x site combinations not represented in our consortium. The model has been taken over from ecological studies and it is mainly based on multiple regression approach.

An update of all the data gathered and the identification of the ones that are still missing will be done during our next WP1 annual meeting that will take place in Paris in December 2018.The results of the model will be validated by Leg Value partners and external experts during the next two years.

Scenarios scaling up legume-based cropping and grassland systems in EU

During the past year, partners helped to identify existing dataset that could be helpful to describe current cropping practices. The coming year will be dedicated to gather all this information and to complete with partners' knowledge to map current dominant cropping systems across Europe. This will then be used as a baseline to design scenarios for scaling-out legume-based cropping systems and assess economic and environmental impacts.

Contact: Rémy Ballot, remy.ballot@inra.fr

Legume value chains and markets (WP2 and WP3)

Survey on stakeholders in European legume-based value chains

The first task of the WP2 is entitled "Economic interest and behavior of each operator involved in the legume-based value/supply chains". It aims to establish a diagnosis of the European legumes sector. The diagnosis implies reviewing the foremost features of the sector including its context, access, internal and external effectiveness, funding, quality, and management. A special focus on the behaviors of the different stakeholders along the legumes value chains is done in this WP2.1 task.
For this, a survey on about 100 stakeholders (farmers, collectors, processors, end-users, technical advisors, traders) was conducted from February 2018 to July 2018 in 32 case studies from the 10 countries involved in the project. The case studies were selected to cover the diversity of feed and food uses including innovative processes, the diversity of farming system (conventional and organic), the diversity of legume species and the diversity of scale levels (local, regional and national levels).
Contact: Tiana Smadja, t.smadja@terresinovia.fr

Understanding the place of grain legumes in global scientific knowledge: a challenging study for INRA and Terres Univia.

In 2016 the legumes research group at INRA launched a bibliometric analysis of the global scientific literature on grain-legumes (soya and main pulses) cultivated in western countries. Mobilizing the scientific expertise of more than 9 scientific fields of research, from genetics to food sciences, we create a dataset of scientific publications retrieved from the Thompson Web of Science between 2000

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

and 2016. Based on co-word analysis from title and author keywords, we generate maps graphically representing how terms are linked, allowing us the identification of how science is run on those species and how fields of research are connected.

The dynamics of keywords is still under analysis for reflection in the researcher community and public authorities financing research on grain-legumes. A particular reflective focus will be the inter-relations between institutes, knowledge transfer between species and efforts to make results from pulses research more widely available to favour innovation. Those results will help sketch a research agenda for agricultural and food sciences that could foster pulses development and suggest new partnerships between research institutes in the world.

Contact: Marie-Benoit Magrini, Marie-Benoit.Magrini@inra.fr

Started in February 2017 by a partnership between INRA and TERRESUNIVIA, BIPROL project aims to focus first on a bibliometric analysis of scientific publications on Soya, Pea, Lupin and Faba Bean in the domains of Nutrition, Processing, Allergy and Consumers' determinants of acceptance. Extracted from the Web of Science for the period 2000-2016, around 15000 publications' data are processed and currently analyzed using Cortext Manager (a platform developed by INRA). The statistical analysis permits to understand how scientific research progressed over the period, especially we observe a reinforcement of scientific research on Soya.

Based on those data, Matteo Lascialfari has started a Phd thesis *"Sustainability Transition and Scientific Knowledge Networks Dynamics: an analysis of worldwide food sciences publications and patents on soya and pulses in economics", u*nder the supervision of Marie-B. Magrini (INRA) and Jerome Vicente (Toulouse University), thanks to a grant co-financed by INRA Metaprogram DID'IT and Occitanie Region. Combining both scientometrics, Social Network Analysis and transition studies, the objective of the thesis is to understand how scientific knowledge is structured and what could be the dynamics of this scientific knowledge. The departing hypothesis is that R&D in Food Sciences on legumes is one of the main levers to unlock the current agri-food system centered on soya, and that new scientific knowledge first develop in scientific research niches.

Contact: Matteo Lasciafari, matteo.lascialfari@inra.fr

Legumes for Food: Catering Supply Chains

The first works on this theme aim to analyse the institutional and political settings around the introduction of plant proteins and legumes into catering.

Despite being subjected to specific issues, catering is not isolated from the sociopolitical issues surrounding dietary questions. The "vegetalisation" of nutrition is a broad topic frequently in the news. It therefore seemed relevant to grasp and understand general problems concerning the place of legumes in food governance to better understand catering sector issues. Official nutritional recommendations, national programs about nutrition, health and legislation appeared as starting points. The first analysis is done in France and will be expanded at European level. This autumn the project will begin to tackle our in-depth catering survey.
Contacts: Antoine Doré, antoine.dore@inra.fr; Hugo Fernandez, Hugo.Fernandez-Inigo@inra.fr

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

Market analyses

For the economic analysis of the European legume market, an exemplary market report of the most used grain legumes in Germany was produced. The main goal of this report is to provide information for a more transparent and efficient legume market. For the first task (Description of the legume market heterogeneity) the main parameters examined are production, domestic consumption, imports and exports. Several relevant price information for grain legumes in Germany are being collected for the second task (Elaboration of price setting schemes for legume markets). For these investigations, semi-structured interviews were undertaken to contextualize and qualify the collected data from different databases. The market structure of grain legumes was drafted to see the flow of goods and identify the main actors dealing with grain legumes. The supply balance, the foreign trade and the price setting system of grain legumes were examined. Furthermore, several factors, playing a role in the supply and demand on the market, were identified. This report should be considered as a guideline for the market analysis of other European countries.

Farmers surveyed claimed to value legumes because of their positive ecosystem services. In particular, the beneficial influence on the soil and the positive preceding crop effect was emphasized. Many also stated that a regional support programme for legume cultivation has made the crops more economically attractive. However, many of the surveyed farmers stated that it is important that legumes become economically feasible within crop rotation.

In addition, existing value chains were researched and analyzed. As an example, the company Emslandstärke processes 130,000 t of locally produced peas into pea starch, pea protein and fibers per year. The company Favatrading from Northern Germany has developed a process for the separation of damaged and undamaged field beans, which makes it possible to produce high-quality field beans for human nutrition. These supply chain studies are being made throughout Europe as part of the project, presenting good concepts in other regions with the aim of inspiring potential implementation.

Market report of grain legumes in Germany: http://www4.fh-swf.de/media/downloads/fbaw_1/forschung_1/forschungsberichte_1/Market_report_of_grain__legumes_in_Germany.pdf

Price indicator of grain legumes in Germany (in German): http://www4.fh-swf.de/media/downloads/fbaw_1/fbaw_4/forschungsnotizen_2018/FN_33_2018_07_15__Preisindicator_fuer_Leguminosen.pdf

Contact: Bruno Kezeya Sepngang, kezeyasepngang.bruno@fh-swf.de www.fh-swf.de

Policy and transition paths (WP4 and WP5)

Diagnostic of relevant policies affecting legumes and understanding the effect of current policy settings. Leader: ADAS (contact: john.elliott@adas.co.uk)

In the 1st year of the project ADAS and UNIBO have undertaken an initial scoping of literature on the policies affecting the production of legumes in the EU and identified a policy diagnostic to analyse specific policies. A detailed review of policies will be undertaken for the UK, France and Germany and findings tested across 7 Member States at stakeholder workshops over the winter. Work is starting on

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

scoping the workshops, including format, location and delegates, ensuring linkages where possible with workshops run by other work packages.

The presentations of the Final Conference of the **PROVIDE project** "Provision of public goods by EU agriculture and forestry: the way ahead and the future of the CAP" (27th June 2018, in Brussels) are available online on the conference website at eventi.unibo.it/provideconference-bruxelles-2018-en.

The project explored the provision of Public Goods by EU agriculture and forestry and addressed PGs mapping, valuation, stakeholder's participation in policy support and governance mechanism design. The Final Conference presented the project results and discussed them with stakeholders and policy makers, also contributing to the current debate on the future of CAP.

the presentations of the Final Local Conferences of the **PROVIDE** project are available online on the project website at www.provide-project.eu.

For more information or questions, please do not hesitate to contact us. www.distal.unibo.it/en

4 EFFICIENCY IN SCIENCE RESEARCH: COLLABORATING TO PROMOTE CROP DIVERSIFICATION

The European scientific community joins forces to promote crop diversification in space and in time.

Major societal challenges prevent the EU farming sector from becoming more economically and environmentally sustainable. A main underpinning feature of these challenges is the polarisation of modern food systems towards a very low number of commodities whose production is dependent upon high levels of inputs such as synthetic fertiliser and pesticides.

Six EU-funded projects are combining their efforts by combining their capacities of around 125 different partners whose expertise span the supply chain. This critical mass embodies expertise of research scientists, civil-society and industrialists including farmers plus food and feed processors and retailers. Their joint objective of this 6-project partnership is to enable the proliferation of more diverse and sustainable crop and food systems.

The projects are Diverfarming, DIVERSify, ReMIX, LegValue, DiverIMPACTS and TRUE, and all are financed by the European Commission's Horizon 2020 research framework. In March 2018 the project leaders met in Brussels and agreed to this joint objective: to improve the sustainability of EU crop and food systems through 'crop diversification'. This objective

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

includes increasing the economic security for people working in agriculture and the upstream food chains. The approach should also protect biodiversity, the environment, and reduce greenhouse gas emissions, as a way to mitigate the impact of climate change.

Under the team name, "*Crop Diversification Cluster*", each project agreed to collaborate and encourage co-innovation and maximise impact of outputs. The transfer of information, materials, methods and results among the different projects' also helps deliver finding with greater certainty.

The six projects in the Cluster can be divided into project-pairs according to their particular focus. Thus, DIVERSify and ReMIX focus on the benefits of crop species diversity in cropping systems as a diversification in space (grown together as a crop association). They study how species mixtures or intercrops can improve natural resource use efficiency (light, CO_2, water, nutrients), pest and disease control, as well as productivity and resilience in the face of chemical input reduction and climate change.

TRUE and LegValue focus on how to best transition towards legume supported food and feed chains. Legumes have the potential to drive production with greatly reduced synthetic fertiliser use. Also, demand for legumes is expected to increase to meet the demands of the growing global population, which is expected to plateau at around 10 billion by 2050. Thus, it will be necessary to make more efficient use of the land and other resources such as water, nutrients and energy.

Finally, DiverIMPACTS and Diverfarming will identify the means by which the potential of diversified cropping and food systems can improve productivity and production efficiency. Diversification is required from the field and across the supply chain to the consumer.

Innovative solutions will be obtained through the projects synergies, which are supported by a network of case studies that span the supply chain from field experiments, novel processing of commodities to new products and Decision Support Systems for policy makers. The Decision Support Systems allow an appraisal of the environmental and economic impacts of interventions to help promote business models that can support crop diversification. The joint effort is expected to extend influencing EC policies such as Common Agricultural-, Plant Protein- and Economic Development Policies, also Directives such as those for nitrate or fertiliser-use.

Weblinks to the projects collaborating in the *Crop diversification cluster*

- **Diverfarming** - Crop diversification and low-input farming across Europe: from practitioners engagement and ecosystems services to increased revenues and chain organisation - : www.diverfarming.eu

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

- **DiverIMPACTS** - Diversification through Rotation, Intercropping, Multiple Cropping, Promoted with Actors and value-Chains towards Sustainability – www.diverimpacts.net

- **DIVERSify** - Designing InnoVative plant teams for Ecosystem Resilience and agricultural Sustainability - www.plant-teams.eu

- **LegValue** - Fostering sustainable legume-based farming systems and agri-feed and food chains in the EU - www.legvalue.eu

- **ReMIX** - Redesigning European cropping systems based on species MIXtures - www.remix-intercrops.eu

- **TRUE** - TRansition paths to sUstainable legume-based systems in Europe: www.true-project.eu

5 EUROPEAN PROTEIN SECURITY: THE EU PROTEIN PLAN AGENDA

Forecasted agenda of the EU Protein Plan 2018

On April 17, 2018, the European Parliament adopted, a resolution on a European strategy for the promotion of protein crops (by 542 votes to 33, with 109 abstentions) - encouraging the production of protein and leguminous plants in the European agriculture sector. Parliament proposed to implement **a major European strategic plan for the production and supply of plant proteins, both for feed and food, calling for:**

- the Commission to take **immediate actions** to avoid any reduction in the current production level of protein crops, particularly regarding legumes, with particular account to their environmental benefits;
- the establishment of a **European platform**, supported by the European Crops Market Observatory to identify protein cultivation areas, determine protein production capabilities (species and volumes), and catalogue all research done so far on proteins.

The resolution can be found here: [2017/2116(INI)]

The European Commission committed to publish, before the end of the year, a protein plan for Europe. The DG AGRI-G4 (market) is responsible to coordinate several events to prepare this report:

1- The European Commission was asking experts and stakeholders for their views on the state of play in the EU plant protein sector, the first phase in the possible development of an EU-wide protein plan. About 450 answers have been collected through a web survey, half of them

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

coming from France and Germany. The need to support legume research seems to be the top priority coming from that survey.

2- A workshop on “Research & Innovation in plant proteins” was held in Brussels on 24 and 25 April 2018. Several partners from LegValue attended the workshop.

3- A workshop on "EU Plant Proteins - Agronomic Practices and Environmental Benefits" was held in Bucharest, Romania on 11 to 13 June 2018. The workshop did focus on soya, pulses and forage legumes, the three main components of the legume species grown in Europe. Experts from LegValue participated in the workshop.

4- A **workshop on “Protein plants supply chains”** is planned on **11 and 12 July** in Châlons, **France.** Experts from LegValue participated in this workshop.

5- A survey on **“Protein plant market”** started the first of March 2018, and a workshop is planned in Amsterdam in September to discuss around the survey report (T.B.A)**.**

6- A **final conference** to present the report will be held in Vienna on **22 and 23 November 2018**.

This new protein plan report will define the road map to promote and to develop legumes in Europe. It is a good opportunity for LegValue and TRUE projects within the ‘Crop diversification’ cluster of Horizon2020 funded EU projects to contribute and to provide they work plan to successfully develop new legume-based value chains that will foster the cultivation and use of legumes in Europe for more sustainable agrifood systems.

Several partners from LEGVALUE participate in them including INRA, Terres Univia and Terres Inovia.

Marie-Benoit Magrini, Economist at INRA, presented two key-notes that are on the website of LegValue

- The first one in April 2018 on innovation dynamics among grain-legumes, focuses on lock-in mechanisms. She explained lock-in mechanisms, which levers must be activated in priority sequence to favor a lock-in break, and so to create Increasing returns of Adoption for soya and pulses in Europe.
- The second- prepared with Celia Cholez - was presented in July. She gave insights on the main concepts and challenges on the dynamics of firm coordination in protein supply chains.

Link to Marie Benoit Magrini presentation:
https://filesender.renater.fr/?s=download&token=ba597274-c58f-066a-bfd3-1d8122160b3a

6 OTHER LEGUME INTERESTS: **OTHER NATIONAL LEGUME PROJECTS**

Other National projects on legumes

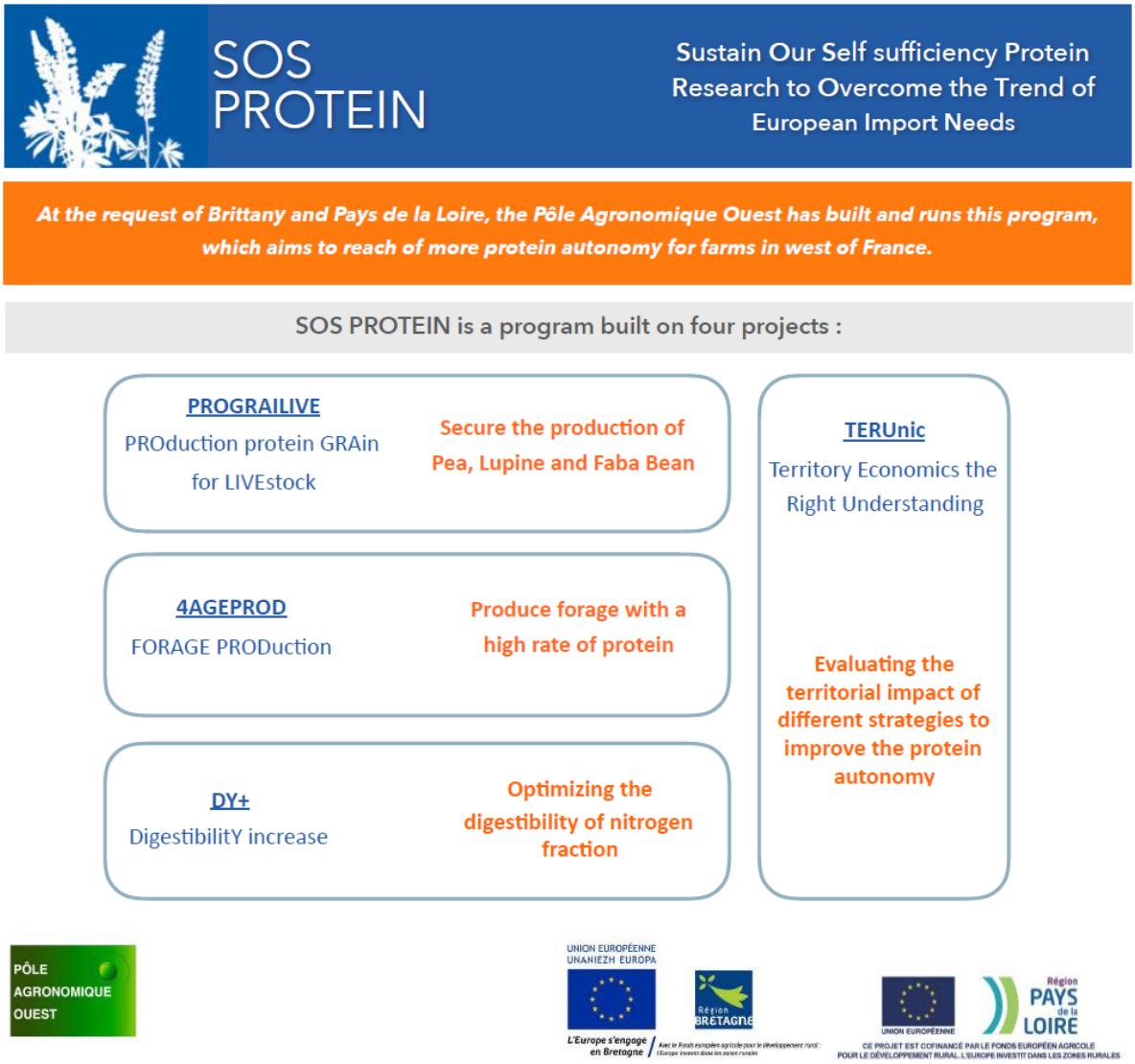
Legitimes (French ANR project)
“construction et évaluation de scénarios territoriaux d'insertion de légumineuses dans les systèmes de culture pour répondre aux changements globaux.”

The Leg Value project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 727672.

The final conference was held in Paris the 10 of July 2018. All presentations can be found here: https://www6.inra.fr/legitimes/Colloque-final
A final document has been produced and is available in the website (in French)
Contact: Elise Pelzer, elise.pelzer@inra.fr

SOS Protein

To create an inter-regional network of exchanging knowledge and innovation, to reduce the dependency on importation of GMO soya for animal production in the west of France.



A mid-term assessment meeting has been held in July 2018, and all presentations can be found here:https://www.dropbox.com/sh/kgbyd6du62uczse/AABjFV-lKD_DuPFd099p5qPwa?dl=0

Summary of the project in english: https://www.pole-agro-ouest.eu/uk/sos-protein/

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

The International Food & Innovation Gathering – La Rochelle – France -20 & 21 June 2018

During this fair gathering 500 food & ingredients companies, 150 exhibitors and 1000 participants, a workshop about the thematic of legumes has been organized by ACTIA, INRA and TERRES INOVIA to introduce the evolution of legumes consumption in Europe as well as the current situation of R&D in this domain at National and European level. A presentation of LEGVALUE has been done at this occasion. A French company "les chocolats du croisé" producing innovative products legumes based had been invited as a success story in this field. More than 30 participants attended this interactive and very successful workshop. http://www.jas-larochelle.fr/en/jas-inquire/les-ateliers-jas

Contact: Christophe Cotillon, c.cotillon@actia-asso.eu

Legumes in the Baltic region

LAMMC team activities in LegValue (Lithuania)

In the 1st year of the project LegValue, the LAMMC team established two Farm Networks: "Pea and faba bean in conventional farming" and "Pea and faba bean in organic farming". In December 2017, a first meeting with farmers from the Farm Networks took place to discuss the sustainability and value of the farming systems based on legumes. Agroecosystem services were explored with a view to identifying important services for farmers. National cropping practice information was identified including land use, cover area, crop structure, etc and rotational crop sequences and management opportunities were identified. Contacts with the key actors in the value chain of legumes in Lithuania were established.

The LAMMC researchers team have initiated the national project "Enhancement of the multifunctional properties of legumes in feed and food value chains" (SmartLegume, 2017–2021, funded by the Lithuanian Research Council). The aim of the project is to develop innovative legume-growing systems based on their multifunctional value, to investigate the agronomic and technological properties of the new cultivars and breeding lines of peas, lentils and chickpeas and their value in the conventional and organic production systems as influenced by the interaction of biotic and abiotic factors.

The information about projects and their activities (in Lithuanian) placed in www.lammc.lt.

Contact: Žydre Kadziul, zkadziul@lzi.lt

LLKC team activities in LegValue (Latvia)

Latvia Rural Advisory and Training Centre have been involved as knowledge transfer partner in the national project regarding legume demonstrations in organic farming. Demonstrations include legume species which are not popular in Latvia; therefore, it aims to introduce local farmers with different legumes and their perspectives in farming. The aim of the project is to show added value of legumes – their ability to compete with

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

weeds, yield and quality, as well as to compare nontraditional species, with which Latvian growers are unfamiliar.

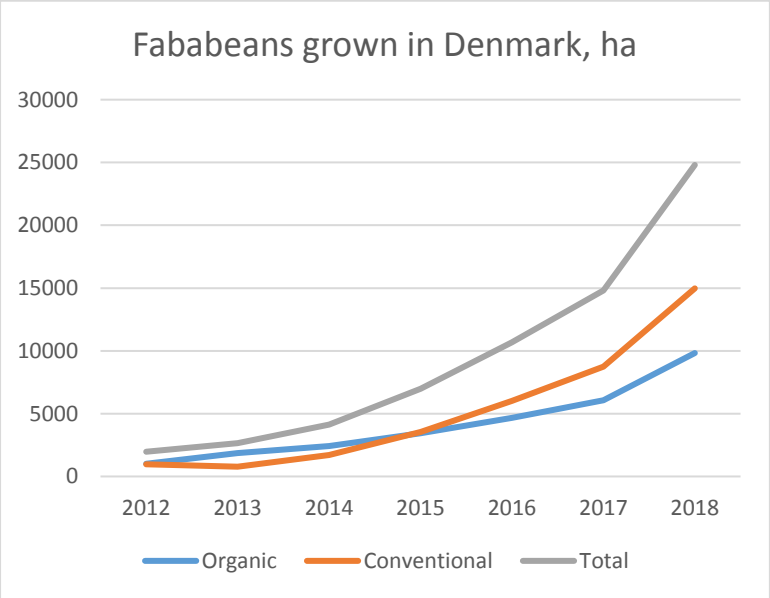
This year the Institute of Agricultural Resources and Economics has sowed different cultivars of faba bean, peas, lupin, vetch and soya. Experimental intercropping of faba bean – summer wheat, peas – oat is being demonstrated on the fields as well. It should be noted that lupin, vetch and soya are not among legumes which are widely grown by Latvian farmers, therefore project partners hope to show the advantages of them.

Information about the project (in Latvian) http://www.arei.lv/lv/projekti/2018/paksaugu-t-sk-latvija-netradicionalu-sugu-un-skirnu-demonstrejums-biologiskas

Contact : Linda Šarķe, linda.sarke@llkc.lv

SEGES update on the fababean progress (Denmark)

Faba bean has become more popular in the resent years in Denmark. In 2018 the acreage is almost 25.000 ha, 10.000 ha organic and 15.000 ha conventional. The growing season 2018 are very hard on the faba beans, because there is a severe drought in Denmark.



The increase in growing faba beans in Denmark is due to a demand for Danish grown protein crops for feeding cattle, pigs and poultry.

Previous projects have shown that faba beans are well suited for growing in Denmark. At the same time the feeding trials for cows and pigs has shown good results compared to soybeans.

Contact: Inger Bertelsen inb@seges.dk

News from Terres Univia (France)

http://www.terresunivia.fr/terres-univia-en

Launched in 2018 by Terres Univia, Interbranch association for vegetable oils and proteins, the ***CHARTE SOJA DE FRANCE*** was elaborated by the main actors of French soya production and transformation value chain: seed compagnies, farmers, grains collectors/elevators, first processors/users.
http://www.terresunivia.fr/sites/default/files/Charte%20Soja%20de%20France/charte-soja-de-france-v1.pdf

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

The **Conjuncture Note** is a tool serving the strategy of the vegetable oils and proteins sector and its stakeholders. Managed by Terres Univia, it carries the inter-professional values and aims to share a common vision of the sector.: http://www.terresunivia.fr/decouvrir-terres-univia/actualites/note-de-conjoncture-terres-univia-ndeg-01-258

Terres Univia have produced a **film about the French soybean sector**, available on YouTube. In about twenty minutes, it details the entire chain, from production to distribution. https://www.youtube.com/watch?v=FxNKBNOTxWw&feature=youtu.be

Sojaxa, the French soyfoods manufacturers association, has just published the 2nd edition of its **barometer of consumer's perception about soyfood** : http://sojaxa.com/informations/actu/le-nouveau-barometre-sojaxa-est-paru

Launched at the last Paris International Agricultural Show by Terres Univia and GEPV, the **Prot'eat challenge** aimed to support innovative young entrepreneurs in legumes and plant-based protein sector. The Legumes Award was attributed to Tartimouss! for its faba beans and chocolate spread, without additional fat. Life Loving Foods received the Plant-Based Proteins Award. These two start-ups will enjoy access to the french foodtech and agtech business acceleration program TOASTERLAB for 12 months. Lastly, the "Coup de Coeur" prize went to Youpeas for its biscuits made from chickpea flour and lupine flour. Youpeas and Tartimouss! also received a financial allocation of 5000 euros. https://www.agorize.com/fr/challenges/prot-eat

In France, the INCA 3 survey (**third individual study on the food consumption and eating habits of the French population**), shows that only 28.4% of the proteins consumed come from plants. Pulses represent only 1% of the total protein intake. It is going to take quite some effort! https://www.anses.fr/en/content/inca-3-changes-consumption-habits-and-patterns-new-issues-areas-food-safety-and-nutrition

Guides from Terres Inovia (France)

Terres Inovia provides advice to farmers and advisors by distributing crop guides for soybeans, peas, faba beans, lentils and lupin**.**

Pea crop production guide (French):
http://www.terresinovia.fr/publications/guides-de-culture/guide-de-culture-pois-2017/

Soybean crop production guide (French) - conventional and organic:
http://www.terresinovia.fr/publications/guides-de-culture/guide-de-culture-soja-2017/
http://www.terresinovia.fr/publications/guides-de-culture/guide-de-culture-soja-bio-2017/

Faba bean production crop guide (French):
http://www.terresinovia.fr/publications/guides-de-culture/feverole-2018/

Lentil crop production guide (French):

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

http://www.terresinovia.fr/publications/guides-de-culture/guide-de-culture-lentille-2018/

Lupin crop production guide (French):
http://www.terresinovia.fr/publications/guides-de-culture/guide-de-culture-lupin-2016/

7 CASE STUDY FEATURES: A SHARP FOCUS ON INDIVIDUAL INDUSTRY STUDIES

To achieve its goals, LegValue is based on several case studies which were selected to cover the diversity of feed and food uses including innovative processes, conventional and organic, the diversity of legume species and at different scales levels (local, regional and national levels).

More precisely, there are 33 case studies spread by legume species from the 10 countries involved in the project, as shown in the table below.

Legume species	Number of case study	Countries
Alfalfa	2	France, Italy
Chickpea	2	France, Portugal
Fababean	6	Denmark, France, Germany, Lithuania, United Kingdom
Lentil	2	France, Italy
Lupin	1	France
Mix	7	France, Italy, The Netherlands
Pea	7	France, Germany, Latvia, Lithuania, United Kingdom
Soybean	5	France, Italy, Switzerland, The Netherlands
Clover	1	Denmark

These case studies mainly allow conducting:

- A farm network analysis in the Work Package 1 “On-farm assessments” from a survey on farmers in the value chains related to these case studies.
- A value chain analysis in the Work Package 2 “Development of legume value chains” from a survey on stakeholders of the value chains related to these case studies.
- A transition path analysis in the Work Package 5 “Legume value chain transition path analysis” from an expert-based work on some of these case studies considered as pilot.

The results of these different analyses will also be used by the Work Package 3 “Economic analysis of legume markets” and the Work Package 4 “Levers for legume development policies”.

Each case study is followed by a consortium partner and, more precisely, by a case study responsible in charge of the surveys conducting and in relation with the corresponding stakeholders for the accomplishment of the different tasks in each WP.

Industry studies (http://www.legvalue.eu/industry-studies/industry-studies-by-country/) that are forming the core of the research project are outlined on the website.

The Leg Value project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 727672.

Highlights on 2 case studies on soybean within LegValue: one from WUR in Netherlands one from FIBL in Switzerland.

The Dutch Pilot: Soya for Food

WUR Open Teelten (English name: WUR Field crops, former DLO) is involved in the introduction of (the cultivation of) soya in the Netherlands. Also, already prior to the LegValue project, our organization has been researching how to (profitably) cultivate soya. The Leg Value so far has been a nice opportunity to strengthen our understanding about his crop by contributing on a European level to the work packages.

Background

The Netherlands is a large importer of soya products for feed purposes. In total, the country imports more than 8 million tons of soya products. Part of this is exported again, but the net Dutch consumption for compound feed products is estimated at around 2 million tons. These large volumes and the large corresponding number of animals in the country, have triggered much debate on the sustainability of soya.

One of the most important producers of compound feed products in the Netherlands is Agrifirm, a cooperative with around 17,000 Dutch members. Being aware of the special corporate social responsibility towards the sustainability aspects of soya production, the company started to look for domestic and regional alternatives for soya import. After a phase of exploration, the company decided that European soya would be the best alternative for import soya, looking at the protein quality of this product in terms of digestibility and essential amino acid profile.

In 2011 and 2012, the company developed two soya varieties for Dutch circumstances (Adsoy and Sunrise) and started producing soya at farm level in 2013 with 11 farmers on 30 ha. Parallel to this, Wageningen University & Research started field research in close collaboration with Agrifirm. This field research was directed at agronomic issues (exploration of available varieties, nitrogen nutrition, seed rates and nematode damage and multiplication). In later years, the number of farmers involved as well as the area increased to around 80 farmers and >400 ha.

It became clear from the experiences and data collected that developing soya for feed production in the Netherlands will require a long-term investment. Therefore, the focus was at least partly moved to the food sector. In 2016, the company started a co-operation with the food producer Alpro which has the strategy to source more of their soya need from Europe. In 2016, the company also started a co-operation with three northern provincial governments and the national government (green deal) with the final aim to grow 10,000 ha of soya in the Netherlands.

Insights as a result of the Leg Value project

The involvement of Wageningen University & Research has continued from 2013 onwards. The role of WUR is to develop knowledge for soya production under Dutch circumstances that will allow farmers to get higher yields, earlier varieties and higher protein content. Within the Leg Value project, the acquired knowledge becomes available on a European level. On the other hand, the project

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

challenges us to deepen and extent our knowledge on various aspects of this crop. The most important insights, resulting from participating in the Leg Value project so far, are:

1. The acreage of soybean cultivated in the Netherlands is still small. One could wonder what moves the early adopters to grow soya. There are multiple reasons. However, a reason which might be overlooked quite easily is that for the farmers who grow soya, the threshold to do so seems to be lower just as a coincidence. Examples are that some farmers already had the essential machinery to sow or harvest themselves. In this case, the farmers did not have to hire a contractor (lower costs). One might state that once the profitability of soya increases, also the stake of farmers for whom the cultivation is profitable will increase.

2. From of the interviews with the soya farmers it became clear that there is very little known by the farmers about the agro-ecosystem services of soya under Dutch circumstances. As a research institutes we indeed acknowledge this research gap.
3. With respect to the soya value chain for food the interviews uncover how the chain is set up by just one value chain actor, namely the input supplier, but also that this chain is still very young/immature. This has everything to do with the size of the acreage soya.

Examples of actions being undertaken in 2018:

1. Performing cultivar trails focussed on finding more suitable cultivars per region in the Netherlands. These regions are defined by its latitude and soil type (sand, clay, loess).

2. Improving our understanding of the nitrogen fixation by the various cultivars. We have examined the amount of nitrogen nodules per cultivar and will research why we have seen differences.

3. Improving our understanding of the factors determining the level of protein content in the soya beans. If you know of articles we should include in our literature study, please contact us (Chris de Visser, chris.devisser@wur.nl or Jacqueline Ulen, jacqueline.ulen@wur.nl).

Left: Field research on soya cultivars by WUR Open Teelten, location Vredepeel, the Netherlands

Right: Title: Examination of nitrogen nodules in field research on soya cultivars by WUR Open Teelten, location Vredepeel, the Netherlands

Left: Closer examination of nitrogen nodules in field research on soya cultivars by WUR Open Teelten, location Vredepeel, the Netherlands

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

Swiss Organic Soybean Value Chain

For over 30 years, Switzerland has cultivated conventional soybean varieties, specially adapted to the cool Swiss cultivation conditions. These varieties must now be tested under organic conditions in different regions of Switzerland (Eastern Switzerland, the Central Plateau, Western Switzerland), and their processing properties must be tested.

The yield stability has so far not been guaranteed, as soya cultivation is very demanding, farmers having limited experience, and there are still various open questions regarding cultivation. To be prioritised and solved in on-farm experiments are pressing problems and obstacles in organic soya cultivation, in collaboration with the project partners and farmers, taking into consideration the results and issues of the soya project "Bio Suisse soya from Europe" and already established solutions of other foreign organisations. As there has been no organised soya advisory service so far, an independent, dynamic and FiBL-coordinated advisory system, as well as a farmers' advisory network for a need-based, independent advisory and training of farmers are being established. Practicable advisory materials in different media are being created for cultivators. Additionally, different public advisory events are being carried out (floor visits, workshops, conferences, courses). Furthermore, an infrastructure for crop-intake and a quality assurance concept are planned.

The project serves the purpose of networking and coordination of actors in the Swiss organic soya supply chain. They engage in exchange, give feedback from the sector and discuss questions regarding the market, so as to create stable framework conditions in production for all parties involved with Swiss organic soya.

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

Short resume about the developed activities during the 1st period of 2018

Stakeholder meetings, strategy, goals and deadlines 2019

On the 2nd February the first of the twice-yearly meetings of all the stakeholders of the organic soybean value chain was held. These gatherings organize the next cropping season, define the new opportunities and to share news barriers at any level. All technical aspects are discussed:

- Agronomy, market developments and genetics research: new varieties have been presented, with agronomic and transformation criteria, feed and food production abilities, in organic condition tested, under weed pressure sown, in green manure.

-FiBL champion organic agronomic research: Trials with different soil preparation, different equipment and under reduced soil tilling.

Tasting of soybean-based end product with the stakeholders

In order to help determine what the processing opportunities for organic soybean In April 2018 stakeholders were invited to participate in a tasting different soybean-based end products.

Based at the food laboratory of one of the biggest processor in Switzerland most interested stakeholder in developing organic soybean-based products, representatives of the stakeholders had the opportunity to taste and comment on all products presented.

Initially the most agronomically interesting organic soybean varieties in terms of yield, disease resistance, weed pressure resilience, soil needs, and climate adaptability were selected. The laboratory then narrowed the selection based on different criteria: protein yield, protein quality, colour, smell, processing capacity, stability and finally taste.

The presented products were: Milk for dairy product substitution, examples included Yoghurts, Tofu and liquid milk. There are future plans to explore the exploration of new product lines which will be organized and involve the main stakeholders.

Newsletter 20th April 2018 - Preparing the sowing

Soybeans are very well suited for sowing under litter. Contrary to popular belief, conventional ploughing (*e.g.* after green manure) is not necessary.

In order to provide good advice to farmers the collecting centre Rytz, Progana (Cooperative) and FiBL summarised in a newsletter the most important factors to consider before sowing.

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

1. Sowing: The best row spacing for mechanical weeding
2. The best combination of implements for mechanical weeding?
3. Feedback from 6 years of trials with mixed soybean and associated cover crops
4. Feedback about relay cropping in soybean
5. Pest control: Main pests in soybean, slugs, hares, Painted Lady Vanessa Cardui
6. Market prospects: Information from the collecting centre
7. Calendar of all planned meetings, fields visit, demonstration

This newsletter is being distributed to all the farmers delivering organic soybean for food and feed - developing organic soybean for food in Switzerland.

In Organic soybean production, the choice of the right implement to the right time to prepare the soil is the key to control right weed pressure, to secure a regular sprouting and rapid establishment.

The main objective is to achieve 100% ground as soon as possible.

A field day - 28th of August 2018

Left: A frost resistant green manure was sown into a non-frost resistant green manure.

Right: Wet spring conditions forced us to cover the weeds with soil, they were already to developed to be destroyed with Kress fingers on the crop line.

In December 2017 preparations began for a large field day planned for 28th August 2018. Collaborating with a farmer in their second year of transition to organic farming and first time Soya bean grower the main goal was to demonstrate to both organic and non-organic farmers how to significantly reduce tillage and deep soil preparation and the benefits to the soil fertility that can be gained with the introduction of soybean and legume composed green manure and intercrops.

Demonstration features included:

- Soybean: methods of sowing into green manure or after destroying vegetation
- Soybean: methods of mechanical weed control
- Corn: methods of sowing into green manure or after destroying vegetation
- Corn: modalities of mechanical weed control
- Sowing of green manure in wheat, corn, rape and sunflowers before harvest
- Mixtures of legumes for nitrogen fixation for intercropping
- Lucerne cropping, evaluating for protein auto-sufficiency and mechanical destruction ahead of a new rotation.
- Presentation of several On-farm quick tests for soil quality

The field event was free to enter to anyone with interests to no-till cropping, organic farming, legume-based cropping and nitrogen and protein auto-sufficiency.

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

Program for cropping strategy and cost control

Hand weeding, for organic soybean a hand weeding is always necessary to avoid coloration of the soybean seeds by the weeds.

In Switzerland, the value premium for organic soybean for food and feed is very large.

The concept of a tool was conceived to enable farmers to introduce the real costs of their crop and decide what level of investment is appropriate for each target market. For example, is a weed free crop (essential for food products) competitive against a weedier crop destined for animal feed.

The need to develop a tool that helps the farmers to calculate the potential expenses for each value chain (food or feed) appeared to be urgent and a program has been developed.

Based on an existing program for cost calculation and collaborating with a local farm accounting institution we added all the elements needed to crop organically soybean for food and feed deriving a cost per ha for each.

A range of costs that are specific to organic soybean cropping have been included, including; organic seeds, new specific implements for sowing, organic fertilizer distribution, weed control, manual weed extraction (especially for food), transport to dispersed collecting centres, contribution for organic farming development.

One of the highest costs in organic soybean is the necessary manual weeding, it is thus very important to know when the crop becomes economically limited by this activity.

This program will be available for the next cropping season but in the meantime will be tested with different kind of simulation this autumn already.

8 FOCUS ON: OUR FEATURED PARTNERS

A profile of the featured partners of this issue FiBL and WR.

FiBL

Forschungsinstitut fur biologischenlandbrau stiftung (FiBL) Organisation

The Research Institute for Organic Agriculture

FiBL is one of the world's leading organic farming research and technology transfer centres dedicated to sustainable agriculture with 150 staff members. FiBL's research team works together with farmers and farmer organisations to develop innovative and cost-effective solutions to boost agricultural productivity while never losing sight of environmental, health and socio-economic impacts. It focuses

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

on soil and crop sciences, socio-economic and animal sciences with numerous international projects and initiatives participating in 46 projects under the EU's Framework Programmes.

The FiBL Department of Extension, Training and Communication (ETC) will contribute to LegValue and interact with the research departments of FiBL. The ETC works at the interface between farmers, research institutions, educational centres, associations, business actors and other stakeholders. The advisors within the ETC team advise and train farmers and orientate research projects towards the needs of practitioners managing on-farm demonstration and experimentation in close collaboration with researchers and local organisations. The communication group produces all materials and information used by farm advisors, farmers and teachers such as technical guides, farmers' magazines, manuals, online-videos and websites, including 400 practice-oriented publications.

Expertise in relation to the topic

The participation in LegValue will be managed by the Suisse Romande branch of FiBL. This branch works on extension, training and specific research projects in field crops and soil sciences, in close collaboration with research groups from the main location Frick.

Two projects will bring needed expertise related to LegValue. Intercropping has been studied for more than 8 years and pea or fababean / cereals mixtures have been successfully introduced into practice in close collaboration with farmers and feeding mills. A research project is presently dedicated to soybean for human consumption and develops new solutions for high quality production and transformation processes.

Main interactions with other departments will concern the Plant Breeding group of the Department of Crop Sciences (DCS) in order to provide specific knowledge on legume species and the Department of Soil Sciences (DSS) to assess soil quality and functions of organic cropping systems.

Role in the project

FiBL will participate in WP1 and WP2 with two case studies with farm networks and value chains, and in WP5 and WP6. The specificities of organic cropping systems will be brought in relation with feed production and the development of legume-based mixtures in the first case study. The second case study concerns the production of soybean for human consumption and the adaptions of the crop from feed to food in European context (breeding).

……..

Stichting dienst landbouwkundig onderzoek (WR)

Organisation

The not-for-profit Foundation for Agricultural Research (WR) is part of Wageningen University & Research Centre (Wageningen-UR). The Institute PPOPRI of WR employs about 450fte with an annual turnover of CA 100M€. The organisation has a track record of a large number of European projects, many of which of a multidisciplinary nature. Within PPOPRI seven business units are organized of which the unit AGV will participate in this proposal. The BU AGV operates in the complete agricultural

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

plant production chain and covers all aspects from improving crop performance, sustainable production and entrepreneurship. Its major goals are the transfer of scientific knowledge into practice with the development of practice-oriented solutions to farmers and the whole agronomic sector. To realize this DLO-PPO has expertise on the cutting edge of development of new knowledge and support of innovation practices. The organisation is leading in co-innovation approaches with farmer groups, SME's and stakeholders and is experienced in developing and monitoring of innovation concepts combined with hands on experience in facilitating and guiding innovative farmer groups. Transitions in agricultural practice are and have been supported by the unit such as the reshaping and aligning of agricultural practice to improve their environmental performance based on decreased nutrients and pesticides use.

Expertise in relation to the topic

Together with a farmer's co-operative, the group is working on soy introduction in practice for 4 years. Also, the group has carried out and is carrying out pea, soya and bean field research in close co-operation with farmers. Regarding transition processes, the group has been implementing transition theories in practice such as Demographic, Economical, Social, Technological, Ecological and Political (DESTEP) analysis, Strategic Niche Management (SNM), Reflexive Monitoring in Action and Stakeholder Management.

Role in the project

WR will lead research in developing transition pathways and will provide, follow and support an active farmer's group on soya production co-ordinated by the Dutch farmer's cooperative Agrifirm.

9 USEFUL LINKS AND STATISTICS: LINKS TO PRICES AND THE MARKETS

From Germany.

- AMI: a subscription is needed to have the raw data. The prices of producers are recorded weekly and reported accordingly. If available, the price ranges are shown in addition to the mean values. Moreover, AMI carries out a calculation of monthly and yearly averages. These prices are available for faba beans, field peas, sweet lupin and soybeans for the different regions and for the whole country (aggregated). New market information is also available for free on their homepage, (AMI, 2018). https://www.ami-informiert.de/ami-maerkte.html.
- LLH Hessen: is a regional institution which publishes the producer prices of faba beans, field peas, soybeans and sweet lupines weekly for the region Hessen. http://www.agrarberatung-hessen.de/markt/pflanze1/010425.html
- The chamber of agriculture in Sachsen publishes the weekly producer prices of faba beans and field peas for the region Sachsen. https://www.landwirtschaft.sachsen.de/landwirtschaft/1402.htm.
- The chamber of agriculture in Schleswig Holstein offers a platform for supply and demand of legumes after registration (LWK SCHLESWIG-HOLSTEIN, 2018). They also publish producer prices of faba beans and field peas for the region Schleswig-Holstein. https://www.lksh.de/landwirtschaft/betriebswirtschaftberatung/markt/getreide-raps/.

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

- DemoNetErBo: offers a platform for supply and demand of legumes. There is a list of stakeholders available that dealing with legume in different regions. A model, according to Löhr, of price calculation for legume is also available here. http://www.demoneterbo.agrarpraxisforschung.de.
- Proplanta: the wholesale prices (Ger. Großhandelspreise) mainly for soybeans and soybean meal in different regions are frequently published here. Depending on the region, some wholesale prices for field peas and faba beans are also available. https://www.proplanta.de/Markt-und-Preis.
- Proteinmarkt: Daily updated information about protein plants / components. http://www.proteinmarkt.de/markt/markt-aktuell/
- UFOB: Information on oilseed, vegetable oil and oil meal prices. https://www.ufop.de/agrar-info/proteinmarktpreise/.
- Market report of grain legumes in Germany: http://www4.fh-swf.de/media/downloads/fbaw_1/forschung_1/forschungsberichte_1/Market_report_of_grain__legumes_in_Germany.pdf
- Price indicator of grain legumes in Germany (in German): http://www4.fh-swf.de/media/downloads/fbaw_1/fbaw_4/forschungsnotizen_2018/FN_33_2018_07_15__Preisindicator_fuer_Leguminosen.pdf

From France

Note to operators for protein crops produced in France:

This monthly report provides all stakeholders in the French industry with a list of prices and information from the main pea and faba bean markets, as well as the state of the crops.

- Lacampagne J-P, Note aux opérateurs, n°419. UNIP/TERRES UNIVIA. http://www.terresunivia.fr/reglementation-marches/suivi-des-marches-0

The inter-professional price indicator for peas in animal feed in France:

- Anonyme, Notice de l'indicateur interprofessionnel de prix du pois en alimentation animale, 2010, UNIP. http://www.terresunivia.fr/reglementation-marches/suivi-des-marches-0
- Lacampagne, J-P, Indicateur de prix du pois en alimentation animale, n°280, UNIP/TERRES UNIVIA. http://www.terresunivia.fr/reglementation-marches/suivi-des-marches-0

Surveys of producer prices in conventional and organic agriculture:

- FranceAgrimer, Les prix payés aux producteurs – résultats de l'enquête trimestrielle (n°7, novembre 2017) http://www.franceagrimer.fr/content/download/54212/524016/file/15%20-%20Enqu%C3%AAte%20Donn%C3%A9es%20et%20Bilans-Grandes%20cultures%20Prix%20trimestriels%20nov%202017.pdf
- FranceAgrimer, Les prix payés aux producteurs – résultats de l'enquête annuelle en agriculture biologique pour les campagnes 2013/14 et 2014/15

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

http://www.franceagrimer.fr/fam/content/download/53029/511643/file/03%20-%20Donn%C3%A9es%20bilans%20Prix%20annuels%20BIO%20grandes%20cultures%202014-15%20et%202015-16.pdf

Observatory of animal feed, campaign 16/17 - Focus on peas and cakes:

- CEREOPA, Observatoire de l'alimentation animale, campagne 16/17 Focus sur le pois et les tourteaux, 2017.

Statistics on seed legume sectors:

Terres Univia provides you with a selection of statistical data on the production, use and prices of oilseeds and protein-rich plants in France, Europe and the world. Compendium of "Oilseeds and Plants Rich in Protein Statistics 2015-2016". For data series corresponding to these figures or for more specific needs, you can contact Jean-Paul Lacampagne (j.lacampagne@terresunivia.fr).

- http://www.terresunivia.fr/sites/default/files/chiffres%20cl%C3%A9s/terresunivia-chiffrescles-2016-oleagineux-plantes-riches-en-proteines.pdf
- Magrini, M.-B, Modotti, M., Biarnès,V., Blosseville, N., Duc, G., Guiavarc'h, Y., Jeuffroy, M.-H., Labalette, F., 2017. *Fiches filières LAG*. Projet COSELAG, AAP CASDAR 776, https://www6.inra.fr/coselag/content/.../COSELAG_SCHEMAS_FILIERES_LAG.pdf
- Labalette, F., Guiavarc'h, Y., 2016. *Etat des lieux des productions et des échanges des légumineuses à graines*. Projet COSELAG, AAP CASDAR 776, https://www6.inra.fr/coselag/Media/Fichier/FASCICULE_DONNEES_STATISTIQUES_COSELAG2

10 DIARY DATES:

2nd French Annual Meeting on Legumes 17th & 18th October 2018 TOULOUSE, FRANCE.

Co-organized by INRA, CIRAD, Terres Univia, Terres Inovia, this event aims at foster exchanges between all research and operators in all legume value chain.

Final program www.rfl-legumineuses.com

Contact: contact@rfl-legumineuses.com

European Congress on Crop Diversification 2019 in Budapest, Hungary

The first DiverIMPACTS conference - the European Congress on Crop Diversification - will take place from September 18 to 21, 2019 in Budapest, Hungary. The call for Abstracts will be published in October 2018.

The conference will explore how we can achieve the full potential of cropping system diversification for improved productivity, delivery of ecosystem services and resource-efficient and sustainable value chains.

The conference is convened by DiverIMPACTS in collaboration with its partner projects Diverfarming, DIVERSify, ReMIX, LegValue, TRUE. DiverIMPACTS partner ÖMKI is in charge of the organisation.

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

Contact and more information: Anikó Pék, ÖMKi - Hungarian Research Institute of Organic Agriculture, aniko.pek@biokutatas.hu

http://m5ph.mj.am/nl2/m5ph/171zx.html?m=AM4AABE1FIkAAVM-WnwAAGf99-4AAR0skdkAGb6yAAKkAwBbWdoaDHSBh5-ORHeilMvh8TNq_wACh6w&b=ef6d5a33&e=5dfa5915&x=Mgy2k_JlPsSyZNhCsQrkGUt5LEGvRL73aZWe3CR_T8Q

The Third International Legume Society Conference ILS3 "LEGUMES FOR HUMAN AND PLANET HEALTH" will be held from May 21-24, 2019 in Poznan, Poland. The health and environmental benefits and the marketing of legumes will be topics throughout the conference. However, its sessions will address wide range of subjects including legume quality and nutrition, farming systems/agronomy, abiotic and biotic stress responses, legume genetics and genomics, new selection methods for plant breeding. Special attention will be given to fostering the interaction of research and research programs with different stakeholders including farmers and farmer associations, seed/feed and food industries, and consumers. www.ils3.org

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