D1.7 Report on the National Visits

Deliverable number	D 1.7
Dissemination level	Public
Delivery Date	30 November 2019
Status	FINAL
Lead beneficiary	Bionext
Authors	Maaike Raaijmakers (Bionext, NL), Agnes Bruszik (IFOAM EU), Freya Schäfer (FiBL-DE)

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090. The information provided reflects the views of the authors. The Research Executive Agency or the SERI are not responsible for any use that may be made of the information provided.

Document Version

Version	Date	Contributor	Summary of Changes
1.0	01.04.2019	Maaike Raaijmakers	Outline
2.0	01.11.2019	Maaike Raaijmakers	DRAFT version
2.1	25.11.2019	Maaike Raaijmakers, Freya Schäfer	Revised version 1
2.2	27.11.2019	Agnes Bruszik	Revised version 2
2.3	30.11.2019	Maaike Raaijmakers, Freya Schäfer, Agnes Bruszik	Final version

Summary

This document is based on the results of the activities undertaken in task 1.2.1 (Analysis of current implementation and best practices for improved implementation of the regulation on organic seed) under Work Package 1 of the LIVESEED project. Work Package 1 of LIVESEED explores EU Member States in terms of their implementation and best practices connected to the EU Organic Regulations, in the contexts of national regulatory and policy frameworks, specifically regarding the production, use, and transparency of organic seed.

The aim of task 1.2.1 is to collect information about the implementation of the rules on organic seed use in different European countries and to identify political bottlenecks that might hamper this implementation. For this task, Bionext, FiBL-DE and IFOAM EU visited 10 selected countries during 2017-2018. The selection of the countries was based on three criteria (i) high number of yearly reported derogations, (ii) limited national availability of organic seed, and (iii) limited data available on the national organic seed market and actors involved. The selected countries, Bulgaria, Estonia, Greece, Hungary, Italy, Lithuania, Latvia, Poland, Romania, Spain, met at least two out of the three criteria.

The aim of the visits was to understand their bottlenecks and possibilities for improvements regarding the production and the use of organic seeds at the national level. During the visits, a selected range of relevant stakeholders from the competent authorities (e.g. Ministry of Agriculture, database manager, control bodies) and from the organic seed sector (e.g. seed producers, farmer associations, research institutes) were interviewed.

The main outcomes of the visits were summarized in so called “country reports”, presenting the status quo for that given Member State. The reports’ findings then were disseminated among a wide range of national stakeholders in 2019 and provided an important input for the discussion during the national workshops (task 1.4) to define viable next steps to improve the status quo in each country.

The analysis of the political obstacles found during the national visits are described in a report on political obstacles and bottlenecks on the implementation of the rules for organic seed in the organic Regulation (D1.9)[1].

[1] https://www.liveseed.eu/wp-content/uploads/2019/10/LIVESEED_D1.9_M1.9_Political_Obstacle_Report_FINAB.pdf

LIVESEED is funded by the European Union’s Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Table of contents

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

1. Introduction and methodology

Introduction

Through previous EU projects (e.g. Solibam, FSO, Evaluation of the organic regulation) and the international ECO-PB workshops, information has been collected on the implementation of the regulation on organic seed in several EU Member States. This information was decided to be completed and analyzed in the framework of the LIVESEED project to identify political bottlenecks.

Together with LIVESEED project partners, based in the Baltic States and in Southern and Eastern Europe, visits were organized to the competent authorities and relevant implementing organizations. To collect relevant information on the organic seed sector, prior to the national visits a status-quo analysis was conducted for each visited country by Bionext (Netherlands)[2] .The visits aimed to explore more in depth the national context. Based on the gathered information of each visited country, it was envisaged to find out what kind of measures could work in each country, which measures need adaptation, and what new policy measures would be needed.

The aims of the national visits were:

1) To find out more about the implementation of the rules on organic seed use within the organic regulation. This includes the functioning of the organic seed database, the derogation policy, role of different actors, national annexes, and additional measures like expert groups or subsidies on organic seed use or seed production.

2) To identify bottlenecks and opportunities for increasing the production and use of organic seed.

3) To identify and get connected to important stakeholders in the national (organic) seed market in order to prepare the national workshops. The workshops took place at a later stage of the project and aimed to reflect on the findings of the visits and to explore opportunities for improvement with a wider range of stakeholders in each country.

Methodology

The selection of the countries was based on three criteria: (i) high number of yearly reported derogations, (ii) limited national availability of organic seed, and (iii) limited data available on the national organic seed market and actors involved. The selected countries, namely Bulgaria, Estonia, Greece, Hungary, Italy, Lithuania, Latvia, Poland, Romania, Spain, met at least two out of the three criteria.

In all countries, except for Estonia and Lithuania, a national LIVESEED project partner was involved in the organization of the national visits. The agenda of each national visit depended on the situation in the country and was drafted in cooperation with the national partner(s). Most visits lasted between 2,5 and 4 days, depending on the size of the country and the location of the stakeholders. The national visit to the three Baltic states lasted 7 days. The national partners also helped with the logistical organization of the visits (accommodation, transport, translation, etc.).

To conduct in-depth interviews between 2017 and 2018, national project partners of the 10 selected countries identified relevant stakeholders within the competent authorities, regional authorities, and

[2] Bionext is the Dutch branch organization for the organic food and farming sector (www. bionext.nl)

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

the wider seed sector. Where it was possible and relevant, stakeholders from adjacent countries were also identified for interviews.

The following stakeholders were, as a general rule, targeted for consultation:

1. the competent authority; usually within the Ministry of Agriculture
2. the manager of the organic seed database, often the seed authorities
3. one or more organic certifiers
4. the national seed association and individual organic seed producers (company or farmer)
5. the organic farmers organization and individual organic farmers
6. an agricultural research institute.

In addition, in some countries the national gene bank was involved (see Annex III for more details).

During the visits three different topics were presented (see Annex IV for more details):

1) The LIVESEED project and the aim of the visits
2) Smart practices around Europe regarding the implementation of the EU rules on organic seed use. This presentation was used to inspire the national stakeholders and inform them about the situation in other countries.
3) A presentation on seed databases, e.g. on OrganicXSeeds, and the plans for a European router database connecting all the national databases, which will be developed within the framework of the LIVESEED project.

The duration of our visit, the stakeholders we met and the institutions we visited differed per country. In some countries we had a meeting with researchers while in another country we actually visited a research institute resulting in more detailed information.

In-depth interviews

Face to face interviews with individuals, and sometimes with a group of individuals were conducted as a basis for descriptive analysis. In a structured interview format, closed and open-ended questions were developed in order to employ consistency in the types of information gained across the different countries visited. Although the same list of questions was applied in each country, not all questions were asked from all stakeholders in each country, only ones with relevance were asked and ones where the individuals' competencies allowed meaningful responses.

Questions were grouped to cover six main areas of our study (see Annex I) that corresponded with the status-quo analysis carried out for Member States based on previous research:

- The national organic seed database
- The derogation (or authorization) process
- Production and use of organic seed
- Policy measures applied
- Research initiatives
- Constraints and opportunities

Responses were recorded in writing during the interviews which later were validated by the interviewees. Follow-up questions were then also administered in electronic format where it was necessary for clarification or addition of information. In one country some of the information provided by the competent authorities was considered confidential and is therefore not mentioned in the country report. In the case of Lithuania, the visit consisted of one meeting with all the stakeholders. The report of this meeting was sent to the organizer of the meeting and to the competent authorities for validation.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Data management

Before each meeting the interviewees were informed about the aim of the meeting and the use of the data. Anonymity was promised in the presentation of the results.

Since the notes during the national visits were made by different people the first task was to collect all the notes. The draft notes were stored on the LIVESEED intranet in a subfolder that could only be found and accessed by the people involved in the visits. The validated notes (in files marked as notesDEF) were made accessible for all the LIVESEED partners involved in WP01. In the final output (country reports) the names of the interviewees are no longer mentioned.

The reports

The findings in each country were summarized according to a fixed format in a so called "country report" of 2 to 3 pages (Annex II). The findings in the country reports were validated by the national partners[3].

The information from all the interviews in one country was first collected in one document and after that summarized. The headings in the country reports correspond with the different groups of questions that were asked during the interviews. The information is described as neutral and factual as possible. Sometimes the answers from the different stakeholders were contradicting. This possibly reflects the differences in opinion between the different stakeholders and the difference between legislation and practice. Regarding the organic seed database and the derogation process the information provided by the competent authorities has been described in the country reports. In addition, the national seed databases were checked to verify the information on the number of suppliers and the offers. Sometimes the help of the national partner was asked to find the right link and to translate the information. The opinions from the different stakeholders can be found under the headings 'constraints and opportunities' and under 'recommendations from the stakeholders'.
The differences in the detail and type of information between the different country reports can be explained by the following factors:

- For the 'general information' the website of IFOAM EU was used as a source unless the national partner had more specific and detailed information from a reliable source.
- The size of the organic sector, the degree of organization and the situation on the production of (organic) seed differs a lot between countries. In some countries there are no seed companies (Latvia) or no companies that produce organic seed (Greece) while other countries have a well-developed seed sector with seed associations and different national organic seed producers (e.g. Hungary).
- In all country reports the link to the organic seed database and to the national organic legislation (when existing) is added. The other links with extra information (in English) where provided by the different stakeholders and the national partner(s).

[3] Country reports were compiled by Maaike Raaijmakers (Bionext), and after consultations with the national partners made public on the LIVESEED website: https://www.liveseed.eu/results/wp1/reports-national-visits/

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Annex I: Interview Questions for the competent authorities and other stakeholders concerning the implementation of the regulation on organic seed use

The national organic seed database

- Who is responsible for the management of the national organic seed database?
- How does the organic seed database function in practice?
- How many seed suppliers offer their organic seed on the database?
  (Please specify for crop type. For instance, vegetables, forage crops, arable crops, vegetative propagating material)
- Under what conditions can a (national or foreign) seed company offer his seed supply on your seed database?
- Are there data available on the use(rs) of the database?
- What is according to you the best way to increase the offer of organic seed on your database?

The derogation (or authorization) process

- On what reason can an organic farmer get a derogation for the use of non-organic seed?
- Who is/are responsible for granting the derogations?
- How many organic certifiers (control bodies) are active in your country?
- Who is responsible for the National derogation report?
- Do you work with different categories or lists depending on the seed supply?
  (For instance, a non-derogation list for crops with sufficient organic seed supply or a general derogation list for crops with no organic seed supply?)
- Are there any specific derogation rules or practices in place?
  (For instance, for seed mixtures or vegetative propagation material)
- Is farm saved seed accepted as organic seed or do farmers still have to ask for a derogation when using it?

Production and use of organic seed

- Who are the main providers of organic seed in your country?
  (For instance, specialized organic farmers, research institutes, national or foreign seed companies)
- Is there, according to your knowledge, organic seed on the market that is not offered on the national database? If so, what might be the reason for that?
- Are there any data available on the supply and demand of organic seed in your country?
- Are there any data available on the use of farm saved seed in your country?

Policy measures

- Are there expert groups for organic seed in place? If so:
  - For which crop types?
  - What is their composition (farmers, seed companies, etc)?
  - What is their role or mandate?
  - How often do they meet?
- Is there a policy or project in place to increase the production and/or use of organic seed in your country?

Research

- Is there public research for organic seed production and/or breeding in your country?

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- Are there organic field trials? If so, for which crops?

Constraints and opportunities

- Are there any bottlenecks concerning the implementation of the rules on organic seed use? *(For instance: are you satisfied with the current database or is there a need for improvement? and how do the relevant stakeholders in the derogation process cooperate?)*
- What do you think is the main challenge for organic seed producers in your country?
- What is needed according to you to increase the availability and production of organic seed in your country?
- What do you think are the main reasons for farmers not to use organic seed?
- What is needed according to you to increase the use of organic seed by organic farmers in your country? What would be an incentive for farmers to use organic seed?

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

ANNEX II. Country Reports of Visited Member States

1. Bulgaria

Implementation of the regulation on organic seed in Bulgaria

Findings from the national visit to Bulgaria, 7-10th February 2018

1. General information

In 2017 there were 6,471 organic farmers in Bulgaria covering 2,9 % (137,000 ha) of the agricultural land area. From this area 29.2 % is permanent grassland, 48.5 is covered with arable crops and 22.3 % are permanent crops (source: IFOAM EU).

2. Production and use of organic seed

There are a few Bulgarian seed companies that produce organic seed or organic vegetative propagating material, for instance from lavender and soft fruit (berries). Also, several international seed (trading) companies, offering both conventional and organic seed, are active in the Bulgarian market. In 2018 eleven, mainly Bulgarian, seed suppliers were offering their seed and vegetative propagating material on the organic seed database.

Public breeding and research institutes play an important role in the production of pre-basic and basic seed from the main agricultural crops. Many (organic) farmers, are registered as seed producers, especially for cereals. They buy (pre) basic seed and multiply the seeds themselves.

It is estimated that in cereal production 95% of the seed used is farm saved seed. Farm saved seed is accepted as organic seed. This means organic farmers can use it without derogation. The control body asks for a declaration stating that the farmer has produced and used his own seeds. Farmers that are in conversion to organic, need a derogation if they want to use their own farm saved seed.

3. Implementation of the EU regulation: the database and derogation policy

The department for organic production from the Bulgarian Ministry of Agriculture, Food and Forestry is responsible for the management of the database and for the derogation policy. The technical management of the database is done by an external IT company that maintains the website and updates the database based on input from the Ministry.

Until 2014, Bulgaria worked with the database called OrganicXseeds[4] that is hosted by FiBL. Since 2015 they have used a different database system. This database is updated twice a year. Before the update the Ministry sends all the seed suppliers on the database a letter to check if they still have organic seed available. If they do not react, their offer on the database will be marked as “exhausted”. If they are sold out the seed suppliers can also send an e-mail to the Ministry themselves and their offer will be removed directly from the database.

To offer seed on the database you must prove you are an authorised seed producer or supplier and your seed must be certified as organic. Seed suppliers must submit all documents to the Ministry which will respond within a month. Foreign companies (traders or producers) need to present an

[4] https://www.organicxseeds.com/international/countryselect

LIVESEED is funded by the European Union’s Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

additional certificate from the Seed Control Agency. Also, they must submit the contract between the original seed producer and their certifying body. When offering seed on the database, seed suppliers must include information about the quantity and delivery period of the organic seed or vegetative propagating material and about the region where it can be delivered.

A farmer can ask for a derogation if the variety he wants to use is not available on the database. The derogations are granted by one of the certification bodies according to a standardized procedure, checked by the Ministry.

4. Policy measures to increase production and use of organic seed

The Ministry stimulates through national policies the production of organic varieties at breeding and research institutes.

5. Obstacles and opportunities

Many farmers produce organic just to receive more European subsidies. They do not always sell their products on the organic market and they are not interested in organic seeds. Farmers can also easily circumvent the use of organic seed. They just ask for a variety for which no organic seed is available on the database. At the same time, there is clearly not enough organic seed available on the market yet. Farmers that actively look for organic seed find the choice of varieties limited and not always meeting their demand.

The organic seed database is not functioning optimally. Information is missing, it is not updated regularly, and many farmers do not know where to find it. Foreign seed companies find it very difficult to get their seed offered on the database. Therefore, they sell their organic seeds directly to farmers.

The research institutes that sell organic (basic) seeds feel they cannot compete with the foreign seed companies. The companies are better traders and can offer the farmers extras like free samples, advice and deferral. Another obstacle is, that many farmers only buy (basic) seed once and then exchange or sell the seeds without paying royalties to the seed producers.

For producers of organic vegetative material, it is a problem that farmers order too late. As a consequence, the organic plants are now often sold on the conventional market.

An opportunity is the fact that some farmers are consciously using organic seed because they have a good quality and the right disease resistances. They are in close contact with the organic seed suppliers and try to solve their cultivation problems together.

6. Recommendations from the stakeholders

- Create incentives for seed producers and farmers to make organic seed more attractive.
- Make the procedure to register organic seeds on the database clearer and simpler. For some companies, it is not clear how to get their seed offered on the database.
- Many farmers don't know about the database and where to get organic seeds, this information should be widely spread.
- Make a specific ordering period obligatory for vegetative planting material. For instance, plants from lavender must be ordered between November and February and from roses between November and June.
- Make sure all certifiers ask for the same information when farmers apply for a derogation.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- Control bodies must check if the farmers are really growing the variety that they asked a derogation for.
- Make it more difficult to get a derogation and introduce a non-derogation list.
- Install an expert group on organic seed that can advise the government.
- Subsidize farmers that use organic seed.
- All seed companies should test their varieties both under organic and conventional conditions.
- Invest more in organic breeding so farmers have more choices of suitable organic varieties.
- The seed authority must check if farmers who want to register as seed producers have a contract with the owner of the seeds they are going to sell.

7. More information

Bulgarian seed database:
https://www.mzh.government.bg/media/filer_public/2019/06/28/poseven_autosaved.xlsx

National legislation for organic farming:
https://lex.bg/bg/laws/ldoc/2137187013

Register of seed producers:
https://iasas.government.bg/bg/register.html

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

2. Estonia

Implementation of the regulation on organic seed in Estonia

Findings from the national visit to Estonia September 6-7 2017

1. General information on Estonian organic farming

There are 1,753 organic farmers in Estonia covering 18,9 % (=181,000 hectare) of the agricultural land area. From this area 52,4 % is permanent grassland, 46,5% is covered with arable crops and 1,1% are permanent crops. Source: IFOAM EU 2016.

2. Production and use of organic seed

There are about 90 specialized farmers that produce seeds in Estonia and around 20 of them produce organic seeds from arable, forage and vegetable crops. The Estonian Crop Research Institute (ETKI) delivers basic seed to organic farmers on a contractual basis. The farmers multiply the seed, ETKI buys it back from them and sells the seed. This can be done directly or through the organic seed database.

Around 45 farmers and 10 seed trading companies are members of the Estonian Seed Association. Some of the trading companies also sell organic seed.

In 2016, the Estonian Crop Research Institute conducted a study about the situation concerning the Estonian organic seed production. They concluded that between 1,5 and 26% of the seed demand from organic cereal producers was covered by organic certified seed in 2015. The highest demand was for oats (2181 t) and the lowest for winter wheat (370 t). There is also a lot of farm saved seed used in Estonia. Organic farmers may re-use their own seed, and this is accepted as organic seed by the law.

3. Implementation of the EU regulation: the database and derogation policy

The Agricultural Board from the Ministry of Rural Affairs is responsible for the management of the organic seed database and for the authorisation of derogations. To enter seed in the database you must be recognized by the Agricultural Board as a producer and supplier of certified organic seed and pay an entrance fee of 40 EUR to cover administrative costs.

In 2017 there were 15 suppliers of certified organic seed listed in the database: leguminous and grasses (5 suppliers), cereals (10 suppliers), oilseeds (1 supplier), pulses and vegetables (3 suppliers.) Not all organic seeds are put on the database, some of them are sold directly to farmers.

There is one list in the database that contains all the information about the varieties for which organic seed is available or was available but has been sold out. Farmers must explain in writing to the Agricultural Board why they need a derogation. The application (online or paper) must contain information about the species, variety, amount and the time period, and the time when the seed will be used. The applicant has to provide the reasons as well why the seed available in the database is not suitable and why the use of non-organic seed is necessary (e.g. organic form of the desired variety is not available). The authorisation will be granted for one season.

If all the varieties of a species are sold out, the general authorisation applies, which means that organic producers can buy and use certified non-organic seed, which is not treated with plant protection products. However, organic producers are still obliged to ask for derogation (special permission) for this.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

If a crop is not mentioned in the database at all, a farmer may assume that the general authorization applies, and he does not have to ask for derogation. Therefore, for crops for which there is no seed available at all, for example for many vegetables, there are no data available about the amount of conventional seed used or the varieties requested. Organic farmers have to apply for derogation before a certain date. The first of March and the first of September are the deadlines for asking for a derogation.

4. Policy measures to increase production and use of organic seed

The government is subsidizing the use of **certified organic seeds** from cereals and potatoes. Farmers get a 20% higher support (under the Rural Development Program – M11 for organic support) for the size of the area they use organic seeds or seed potatoes on. This is written in the national interpretation of the organic regulation. In the past, the production of organic seed was promoted as well but the seed quality was not always sufficient, so this subsidy has been stopped.

5. Breeding research and field trials

The Estonian Crop Research institute is breeding varieties (for vegetables and cereals) that are also suitable for organic farming, for instance, varieties with a good disease resistance. There is not a specific organic breeding program, but they do organize organic field trials, also on organic farms.

6. Constraints and opportunities

The use of uncertified seed is a problem. Sometimes seeds that are sold to farmers as animal feed are used for sowing. At the same time there is not enough certified organic seed available on the Estonian market to cover the demand.

There is a lack of seed handling and cleaning equipment. Furthermore, some farmers do not trust the quality of organic seeds. They question whether the seed is healthy and vital enough to produce competitive yield.

The production of certified organic seed potatoes is very complicated. Some Estonian farms have tried to produce organic seed potatoes, but they had problems with the marketing. In general, organic seed producers say that the sales are too uncertain.

An opportunity is that ETKI can produce more organic seed. They just need more farmers that want to multiply it. For instance, there is a very popular carrot variety (*Jogeva nantes*) which could be organically propagated.

7. Recommendations from the stakeholders

- Seed companies need to produce more according to the market demand for organic seed. Now they do not always have the varieties that Estonian organic farmers need.
- Not all farmers are aware of the fact, that the use of organic seed is subsidized, this should be communicated more widely.
- The seed database should be made more interactive and updated more regularly.
- The production of organic seed should be subsidized under the condition that the quality is good, and the seed passes the certification tests.
- The government should facilitate the establishment of seed cleaning centres.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- Further research is needed on conventional seeds to find out whether the pesticide residues will transfer to the crop. If this is the case this would be an incentive for farmers to use organic seeds.

8. More information

The organic seed database: www.pma.agri.ee/index.php?id=104&sub=128&sub2=411.

National legislation on organic farming: www.riigiteataja.ee/akt/125042017006

The Estonian Research Institute: www.etki.ee
Estonian Organic Farming Foundation (EOFF) www.maheklubi.ee

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

3. Greece

Implementation of the regulation on organic seed in Greece

Findings from the national visit to Greece, 4-6th February 2018

1. General information

In 2017, there were 20,197 organic farmers in Greece covering 5% (410,000 ha) of the agricultural land area. From this area 48.9 % is permanent grassland, 36.6 % is covered with arable crops and 14.5 % are permanent crops (source: IFOAM EU).

2. Production and use of organic seed

There are two seed associations in Greece; one for the seed trading companies that controls around 70% of the seed market and one for the Greek conventional seed companies controlling 30% of the market. There are no Greek seed companies producing organic seed. The organic seeds on the market are imported, mainly vegetable seeds from Italy, and only available in small quantities.

Most organic seed in Greece is farm saved seed. Before 2017, around 70% of the derogations were for farm saved seeds. Since 2017 farmers can use farm saved seeds without derogation for all varieties that are not protected by breeder's rights.

3. Implementation of the EU regulation: the database and derogation policy

The Ministry of Agriculture is responsible for the management of the national organic seed database. The database is updated on specific dates related to the sowing period of crops. Currently the database is empty. To enter their seed on the database a (national or foreign) seed supplier needs to be certified as an organic operator and seed producer in Greece. They must offer their supply at a regional level. The suppliers must pay a 10-euro fee per variety because in the past one supplier uploaded a lot of varieties which were only available in small amounts. These quantities were not enough for professional farmers.

Farmers can apply for a derogation at one of the 52 regional authorities. They must enter an application in an electronic platform. If a farmer asks for a derogation and there is organic seed from this crop available on the database, the system blocks the derogation. Then the farmer must contact the Ministry and provide arguments why he needs this specific variety and why the one available is not suitable. Farmers must ask for a derogation for every variety regardless the crop. There are no general derogations. Farmers only get a derogation for the area they grow. The regional authorities check the amount of seed requested for derogation and the area for cultivation.

4. Policy measures to increase production and use of organic seed

There are currently no policy measures to increase production and use of organic seed.

5. Breeding research and field trials

The Institute of Plant Breeding and Plant Genetic Resources (IPBGR) is connected to the Greek gene bank and has several breeding programs. They breed cereals (wheat, barley, oats and rye) for low-input systems. These varieties are suitable for organic farming. IPBGR sells the basic seed from their own varieties to conventional Greek seed companies which then propagate them and sell these varieties to farmers - including organic farmers who buy under derogation as conventional seed.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

The gene bank is focussing on landraces and local varieties of all crops cultivated in Greek agriculture. In total the collection contains about 60,000 accessions including more than 250 grape cultivars, aromatic and medicinal plants, trees (apples, pears, nuts, olive trees, figs), vegetables, cereals, pulses and legumes.

There is an ongoing collaboration between IPBGR, Aristotle University (Plant breeding section) and Aegilops for evaluation and breeding of wheat (hard, soft, hulled) varieties under organic conditions. The cereal field at the IPBGR, is not certified organic but managed under organic conditions for 10 years. The University of Thessaloniki is doing organic breeding research. They work on cereals, legumes, vegetables and aromatic crops.

6. Obstacles and opportunities

The main problem is that many organic farmers in Greece only grow organic for the European subsidies. They sell their organic products on the conventional market and are not interested in organic seed. In addition, some farmers are subsistence farmers who certify for instance their old orchards to get subsidies.

Another obstacle is the fact that farmers do not see the difference between conventional and organic seed. They do not see the advantage of using certified organic seeds. The price of the seeds is higher, and the final organic product is the same.

There is a lack of trust between farmers and the gene bank because farmers are not sure that they receive the seed they asked for.

According to some researchers the quality of organic seeds might also be an issue; in some tests (germination, disease, etc.) organic seeds were performing worse than conventional seeds.

Greek seed producers that used to produce organic seeds stopped because they found no market for their seeds. At the same time farmers that do want to use organic seeds have difficulties to find them because the seed database is empty.

It takes a lot of administration for farmers to receive a derogation to use conventional seeds even when there are no organic seeds available at all.

One opportunity is the fact that, due to the derogation policy, there is a good overview of the potential demand for organic seed for each crop. Since derogations are only granted for the area of cultivation the total amount of derogations gives a clear indication of the amount of organic seed that is missing. Another opportunity is that the IPBGR is willing to invest in organic breeding if there is a clear demand from organic farmers and if it will be possible to register organic varieties.

7. Recommendations from the stakeholders

- Remove the quantity of organic seed per variety from the database;
- Make it easier for seed suppliers to put their seed offer on the organic seed database;
- Improve the database so it is interesting for farmers to use it;
- Develop a definition for organic bred varieties, so they can be registered;
- Provide training for farmers to become a registered organic seed producer;
- Create a market for organic seed. Once there is some seed on the database Greek companies might think: "There is a market for organic seed, we need to invest in this otherwise the money goes somewhere else."
- Invest in local seed production.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- Subsidise the use of organic seed for a limited period of time.
- Reduce the price difference between conventional and organic seed. A price difference of 10% is acceptable.
- Inform farmers about the advantages of organic seed.
- Invest in organic breeding and organic field trials

8. More information

Greek seed database:
www.minagric.gr/biologiki/biologikh.aspx

National legislation for organic farming:
http://www.minagric.gr/index.php/el/for-farmer-2/biologikgeorgiaktinotrofia

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

4. Hungary

Implementation of the regulation on organic seed

Findings from the national visit to Hungary 21-24 November 2017

1. General information

There are 3,414 organic farmers in Hungary covering 4 % (=186,000 hectare) of the agricultural land area. From this area 56,3 % is grassland, 39,3% is covered with arable crops and 4,4% are permanent crops. Source: IFOAM EU 2016

2. Production and use of organic seed

The Hungarian Seed Association (Vetőmag Szövetség) has around 800 members. Membership of this association is obligatory if you want to sell seeds in Hungary. Over 400 members are seed companies, around 160 are farmers and the rest are seed trading companies. The seed companies are mainly Hungarian companies that produce for the Hungarian market.

According to the organic certifier Biokontroll Hungária, there are between 30 and 40 certified organic seed producers in Hungary. Farmers and research institutes are the main providers of organic seed. The farmers multiply the basic seed and the cleaning is done by subcontractors. Still there is very little certified organic seed on the Hungarian market. Organic seed companies do not necessarily produce organic seed every year, production depends on the demand. Often organic seeds are produced on a contractual basis, and seeds are certified and sold abroad. There is also a lot of farm saved seed used in Hungary. Organic farmers may re-use their own seed, and this is accepted as organic seed by the law.

3. Implementation of the EU regulation: the database and derogation policy

The National Food Chain Safety Office (NÉBIH) is responsible for the management of the organic seed database. To enter seed on the database, seed suppliers fill in a registration form, which contains relevant information about the supplier, organic seed species, variety, amount of seed, lot number, availability, etc. NÉBIH receives information from the suppliers if stocks are no longer available and keeps the database up to date.

The amount of seed lots and suppliers on the database differs per year. In 2017, one company offered organic vegetable seeds of 25 varieties on the database. In addition, one fodder pea and three fodder maize varieties where offered on the database.

Not all organic seed is on the database. Organic farmers can find and sell organic seed outside the database through direct sale. If they have already a buyer for their seed, they do not put it on the database anymore. Farmers do not see the purpose of selling seed via the database. If it is on the database there is a risk of not selling their organic seed.

Farmers can get a derogation if no organic seeds are available on the database from a variety that they wish to grow. Derogations are granted by the certification bodies (Biokontroll Hungária Nonprofit Kft. or Hungária Öko Garancia) who report to the competent authority (NÉBIH).

4. Policy measures to increase production and use of organic seed

Members to the Seed Association receive the organic certification (from Biokontroll Hungária) free of charge.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

5. Breeding research and field trials

The Agricultural Institute, Centre for Agricultural Research, Hungarian Academy of Sciences (MTA ATK) has an organic plant breeding programme in cereals. They produce organic einkorn and emmer varieties. They produce pre-basic and basic seeds and sell them to seed companies or farmers that produce seeds. For spelt and wheat this is organized by the company Elitmag (https://elitmag.hu) which was established by MTA ATK and also owned in majority. They only produce organic seed if the farmers order in advance.

There is also a Potato Research Institute in Keszthely, part of the Pannon University. This Institute has a broad range of conventional resistant varieties, which can be suitable for organic cultivation as well. There are no official organic field trials in Hungary but the Hungarian Research Centre for Organic Agriculture (ÖMKI) conducts on-farm trials to test the performance of winter wheat varieties under organic conditions.

6. Constraints and opportunities

There is no market demand for organic seeds, and therefore, there is no economic incentive to produce organic seed for the Hungarian market.

The organic seed database does not function very well. Most seeds are now sold through direct sales from farmer to farmer. If one puts their seed on the database it might not be sold.

Organic seed production has a high risk. It is difficult for farmers to reach the quality standards needed for certification.

The varieties which are multiplied under organic conditions do not always meet the demand of the organic farmer. There are more than 300 wheat varieties available in Hungary; but only 3 of them are on the organic seed database. So, the choice on the database is very limited for the farmers.

The price of organic seed is a bottleneck. The price difference with conventional seed is on average 50%.

There is not enough untreated conventional seed on the market either. Farmers must order their untreated seed in advance. Some seed companies refuse to sell untreated seed; in their opinion the public law it is obligating them to treat the seed.

An opportunity is a contract between MTA ATK and the company Naturgold. Naturgold sells the organic seeds to farmers and buys back the product they produce. This reduces the financial risk for the farmers. This example, using a closed contracting system, could be applied to other crops and companies and would increase the organic seed use in Hungary.

Another opportunity is the fact that all stakeholders, including the Ministry of Agriculture, acknowledge the importance of organic variety trials and want to cooperate to realize this.

7. Recommendations from the stakeholders

- To create a market for organic seeds, the higher costs of the seed must be compensated by a better performance of the variety.
- To find out which varieties are most suitable for organic production, and therefore are performing better, organic variety trials must be organized.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- It should be compulsory in the organic report (made by farmers annually) to mention the name of the varieties used, and not only the species. Currently 95% of varieties reported by organic farmers to the control bodies are listed as unknown.
- An expert group for organic seed could boost the organic seed sector gathering and distributing the knowledge in the sector.
- To improve the quality of farm saved seed, farmers need training and seed cleaning facilities.

8. More information

Organic seed database: http://portal.nebih.gov.hu/oko-vetomag
Biokultura: www.gfar.net/organizations/hungarian-association-organic-farmers-biokultura
ÖMKi: https://biokutatas.hu/about-us/
MTA-ATK: www.mta-atk.hu

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

5. Italy

Implementation of the regulation on organic seed in Italy

Findings from the national visit to Italy, 4-8th September 2018

1. General information

In 2018, there were 79,046 organic farmers in Italy covering 15.5 % (1.9 million hectares) of the agricultural land area. From this area 53% is grassland, 19% is covered with arable crops, 25% are permanent crops and 3% are vegetables (source: SINAB, 2019).

2. Production and use of organic seed

Due to the good climate for seed production, many seed companies locate their seed multiplication in Italy. Assosementi, a trade organization that represents the Italian seed industry, has 160 members. About 8-10% of the members produce or trade organic seed. Another association of seed producers "Asseme" has three of their 30 members producing organic seed.

Cooperativa Agricola Cesenate (C.A.C.) is an Italian farmer cooperative for seed multipliers. They multiply seeds for seed companies on a contract basis and work with specialized farmers. C.A.C. has about 2.200 members and around 100 of them are organic farmers, which results in 3 to 5 % of their seeds being organic. They mainly produce vegetable organic seeds for international companies. The price the farmers receive is connected to the yield, but if the seed production fails the farmer is compensated. When the demand for organic seed grows, they try to find new organic farmers for seed production, instead of making their conventional farmers convert. The farmers associated with C.A.C. are supported by the technical staff of C.A.C, which takes care of several aspects of seed multiplication, from checking the isolation distances and delivery of stock-seed for planting to the collection of the harvested seeds.

In addition to the seed market, there is a large informal seed system in Italy in which farmers produce and exchange seeds, mainly from local and traditional varieties and often only within their network. One of these farmers seed networks is Rete Semi Rurali, which focuses on local and organic seed systems. Furthermore, there is a lot of farm-saved seed used, especially in cereal production. For some crops, for instance wheat, it is estimated that over 50% of the seed used is farm-saved. When organic farmers re-use their seed, it is accepted as organic seed. This means they can use it without asking for derogation.

3. Implementation of the EU regulation: the database and derogation policy

In general, the organic farming office of the Ministry of Agriculture, Food, Forestry, and Tourism Policies (MIPAAFT) is responsible for the organic seed database and the derogation report. However, certain tasks like the management of the seed database and individual derogation requests were delegated to CREA, the National Agricultural Research Institute operating under the supervision of the Ministry.

At the time of the national visit, the organic seed database consisted of a static downloadable table, which was nearly empty and not functioning well. Most of the organic seed on the market was sold directly to farmers and not through the database. At the end of February 2019 though, a new organic seed database came online, also introducing a new derogation request system. In this database, there are three categories: a general derogation list (green list) with currently 517 crops, a single derogation list (yellow list) with 201 crops and a non-derogation list (red list) which is still empty.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

All seed companies that have a branch and an organic certification in Italy can register their varieties on the database. If Farmers want to use conventional seed from a crop that is listed on the single derogation list (yellow) they must ask for a derogation online.

4. Policy measures to increase production and use of organic seed

To improve the situation on the use of organic seed, the Ministry issued a national decree in 2017, with three main aims: (i) to establish a computerised database (BDS) of organic seed availability; (ii) to define a list of equivalent cultivars to reduce the number of derogations; (iii) to simplify the procedure necessary for the granting of derogations. The decree led to the establishment of the already mentioned new database and a new derogation system in 2019. Besides that, there are two expert groups concerning organic seeds. One of those works on political issues and taking political decisions and the other is focused on the technical/research aspects to advise the political group. The main role of the technical group is to monitor the implementation of the new database and to establish which crops can be assigned to the three database categories.

5. Breeding research and field trials

The government is funding organic breeding research and field trials at CREA for rice, durum wheat, tomato, and heterogeneous material (CCPs). CREA has a crucial role in monitoring the outcome of the experiment on marketing heterogeneous cereal populations (decision 2014/150/EU), which was extended until February 2021.

CREA's research site in Monsampolo (as part of the research centre for vegetables and horticulture) and has a certified organic farm of 1 hectare. On this site, 18 years ago, CREA started a long-term experiment MOVE LTE, which includes 6 cash crops and 3 cover crops. The purpose of this rotation is high soil coverage (also in winter) and high biodiversity. In this long-term research, the organic system is evaluated on sustainability, sub-divided into four topics: agronomy, genetics, environment, and economics.

As part of the LIVESEED project, CREA researchers are supporting a participatory tomato breeding program, which aims to develop varieties adaptable to climate change and organic growing conditions. They make crossings of populations to create heterogeneous material and try to find out if heterogeneous material also has advantages in vegetables: proof of concept. CREA is also involved in the project BRESOV for organic vegetable breeding in broccoli, snap bean and tomato. There, the aim is to establish a core collection of genotypes for each species and exploring the genetic basis of main traits for organic cultivation and develop molecular markers.

6. Obstacles and opportunities

The large-size organic farmers in Italy are mainly looking for hybrid varieties to produce uniform products for large scale distribution. For them, the price is the most dominant factor in choosing the seed. They do not see the advantage of using (more expensive) organic seed if the organic varieties are the same as the ones used in conventional farming. In addition, the processor is often more influential in the choice of varieties than the farmer. Sometimes farmers even get the seeds from the buyer of their product.

On the other end, there is a strong interest in the Italian market for products from old, local and niche varieties. Unlike conventional farmers, organic farmers cannot easily grow these products because the varieties used are often not registered. In those cases, organic farmers don't get a derogation for the use of the seed from these varieties.

Another obstacle in view of some farmers is that the available organic seed does not perform as well as the conventional seed and that there are hardly any varieties on the market that are especially bred

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

for organic farming. In the last years two National Seed Action Plans included field trials. Based on those results, a list of varieties that are suitable for organic farming (for some crops) was developed. Unfortunately, this list is never used.

Several seed companies that have started with organic seeds in Italy stopped again because they could not find a market for their seeds. According to them, this is due to the derogation policy which makes it very easy for farmers to avoid the use of organic seed. Farmers then use the database to look for a variety that is not organically available. Seed producers also face contamination problems during seed multiplication. For instance, pumpkin and zucchini seeds easily absorb chemicals from the soil. Even chemicals from the seventies can be found sometimes. If organic seeds are contaminated, they are downgraded to conventional seeds.

An opportunity is that the farmers in the consortium Conmarchebio are encouraged to use organic seed. They are educated about its advantages and the consortium creates financial incentives to use it, for example through an agreement with a seed supplier that gives a 10% discount if members of the cooperative buy organic seeds. Furthermore, those farmers can get their seed-purchase pre-financed by Conmarchebio.

Another opportunity is that CREA has 45 test locations for variety registration across Italy and they intend to create a network for organic test fields within this system.

7. Recommendations from the stakeholders

- The Ministry should organize a dialogue between farmers and seed companies to match their requirements and learn about the specific organic growing conditions.
- The Ministry should establish a new national action plan for organic seed. This is needed to consolidate the activity for the evaluation of the appropriate varieties for organic farming.
- The regions should include measures that encourage organic farmers to produce or use organic seed, in their regional action plan for organic farming.
- Prohibit derogation when there is sufficient availability of organic seed for a certain crop; create a non-derogation list (red list).
- The seed expert groups from the Ministry need more technical expertise to make decisions on this subject. Seed producers are currently not involved but should be considered.
- Seed companies must produce organic seeds from varieties that have an added value for organic farmers.
- There is funding needed for organic breeding research to better match varieties to specific organic growing conditions.
- Develop a standard certification and logo for organically bred varieties so products from these varieties can be recognized by consumers.
- Organic farmers need more legal possibilities to exchange seeds.
- Create a place on the internet (a pre-database) where farmers share with breeders what varieties they need and what they grow. This could be a first step before a database-system, where crops can be identified for the red list. Working together with a growing group of organic farmers that are committed to using organic varieties might be a better strategy than forcing farmers to use organic seed. In this way, a snowball-effect can be created that is solid enough for breeders to invest in organic seed.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- Breeding researchers need an international network to combine and share their knowledge on the complex topic of organic breeding. This is needed to have more insight in what directions and decisions they need to make in organic crop breeding.

8. More information

Italian seed database:
www.sian.it/conSpeBio/index.xhtml

Derogation reports:
http://scs.entecra.it/biologico-indice/autorizz-concesse.html

National legislation for organic farming:
http://www.sinab.it/normative/all/all

National Information system on Organic Farming:
http://www.sinab.it/content/bio-statistiche

Italian seed association:
www.sementi.it/

C.A.C.:
www.cacseeds.it/eng/colture-cac.asp

Instruction to register as a user of the database and/or sent an online derogation request:
http://scs.entecra.it/biologico-indice/biologic.html

Ministry Decree Nr 15130/2017:
https://www.gazzettaufficiale.it/atto/serie_generale/caricaDettaglioAtto/originario?atto.dataPubblicazioneGazzetta=2017-04-24&atto.codiceRedazionale=17A02812&elenco30giorni=false

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

6. Latvia

Implementation of the regulation on organic seed in Latvia

Findings from the national visit to Latvia, September 8-9 2017

1. General information

There are 4,145 organic farmers in Latvia covering 14,3 % (= 259,000 hectare) of the agricultural land area. From this area 45,9 % is permanent grassland, 53,3% is covered with arable crops (mainly cereals and fodder crops) and 0,7% are permanent crops like berry bushes. Source: IFOAM EU 2016.

2. Production and use of organic seed

In total, there are around 190 registered seed producers in Latvia. Twenty-six of them are organic seed producers, including specialized farmers and research institutes.

The Latvian Seed Producers Association has 47 members all producing certified seed. Most of them are farmers, 8 members are trading companies and 4 members are organic producers. Latvia has no national seed companies.

A lot of farm saved seed is used in Latvia, especially from cereals. Organic farmers may re-use their own seed, and this is accepted as organic seed by the law.

Although the exchange and sale of farm saved seed is forbidden, there is still a lot of uncertified seed on the market. Organic farmers are among the main buyers of certified seed (organic and conventional) because they must account for their seed use to their organic certifier.

3. Implementation of the EU regulation: the database and derogation policy

The State Plant Protection Service is responsible for the organic seed database management and the authorisation of derogations. In 2017, 13 seed suppliers were listed in the organic seed database.

The quantity of seed that is available per variety is specified. There is a separate list for vegetative propagating material, for instance from blackberries. Foreign seed companies cannot enter their offer on the Latvian database. This is because this seed is much more expensive that nationally produced seed. The government does not want to oblige the farmers to buy more expensive seed. Besides that, this seed might not be suitable for the Latvian growing conditions.

The application for a derogation must be submitted before a certain date, depending on the crop. If a farmer requests derogation for a variety that is not in the database, or not available in sufficient quantities, they receive the derogation. Farmers pay 7 EUR for each derogation to cover administrative costs. General derogation applies for crops for which there is no seed production in Latvia: conventional nor organic.

4. Policy measures to increase production and use of organic seed

There is an expert group on organic seed, which was established by the Ministry of Agriculture in 2006. The expert group meets 1 to 3 times a year and discusses all the issues that are relevant to organic seed production. The group members are: one expert per crop type (i.e. potato, grain, fodder crops, vegetables), members of the control bodies and experts on seed legislation.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

The president of the Organic Farmers Association is also invited as an observer. The expert group functions as an advisory body. They develop amendments to the existing legislation, give advice about the derogations and contribute to solving the upcoming issues.

The Ministry offers mandatory – 180 hours – training to organic farmers before receiving any subsidies. The training's curriculum includes seed production. Under the current Rural Development Programme (direct payments) Latvia offers subsidies for those who grow seeds – organic and conventional – with a minimum production per hectare.

5. Breeding research and field trials

The Institute of Agricultural Resources and Economics (AREI) has an organic breeding program. The breeding for organic farming is carried out for several crops: barley, pea, potato, wheat and oat. AREI is also testing varieties for suitability in organic farming. They organize field trials for potato, several cereals (spring barley, winter rye, winter triticale) and peas.

The Latvian University of Agriculture ensures the assessment of the value for cultivation and use (VCU tests) of conventional and organic plant varieties. Organic varieties in general are tested for the same criteria as conventional varieties but under organic conditions (some crops have specific trait assessment – for instance – lodging for cereals). In the Latvian Catalogue of Plant Varieties there is set information regarding variety suitability for organic farming.

6. Constraints and obstacles

The main obstacle for organic farmers to use certified organic seed is the higher price of these seeds. Before Latvia entered the EU, farmers were subsidised to use certified seeds, but now this is no longer the case. Farmers also have to pay for the transport of the organic seeds if they are available in another part of the country.

Although forbidden by law, it is very easy, and cheap, for farmers to buy uncertified seeds (officially "grains with germination ability") directly from other farmers. Farmers prefer to buy seeds from someone they know.

Conventional seed producers are not interested to convert to organic seed production, because they are already in a profitable business. It is more difficult to grow seeds under organic conditions and on top of that there is a need for investments to develop suitable varieties.

In Latvia an organic seed producer is often not competitive on the market. It is difficult for them to get a good price and they have problems with different diseases and weeds. Sometimes the organic seeds are only certified for organic production in Latvia and then exported (for instance to Denmark) for cleaning and seed (quality) certification. After that the seeds are sold by companies like DLF.

It is easy for organic farmers to get a derogation so there is no secure market for organic seed producers. Farmers can choose different varieties than the ones that are in the database and they also get a derogation if the organic seed is not available in the right quantity.

7. Recommendations from the stakeholders

- The price is the main obstacle for not using organic certified seeds; so, the use of organic seed should be subsidised.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- There is a need for information about the advantages of the use of organic seeds so the demand for organic seed will increase.
- For organic seed producers, good cleaning machines are essential to meet the quality requirements (get rid of the weed seeds), they need a "seed cleaning factory."
- Compulsory policy measures are needed; it is too easy to get a derogation.
- The removal of the information on the exact availability (kgs) per variety from the database may make farmers more proactive.

8. More information

The Latvian organic seed database:

http://www.vaad.gov.lv/sakums/registri/biologiska-lauksaimnieciba.aspx

National legislation on organic farming:

http://www.videskvalitate.lv/ https://www.stc.lv/biologiskas-lauksaimniecibas-sertif

The Latvian Seed Producers Association: www.seklaudzetaj.lv

Institute of Agricultural Resources and Economics: www.arei.lv

Association of Latvian Organic Agriculture: www.lbla.lv

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

7. Lithuania

Implementation of the regulation on organic seed in Lithuania

Findings from the national visit to Lithuania, September 11 2017

1. General information

There are 2,539 organic farmers in Lithuania covering 7,6 % (222,000 hectare) of the agricultural land area. From this area 32 % is permanent grassland, 65,2 % is covered with arable crops and 2,8 % are permanent crops. Source: IFOAM EU 2016

2. Production and use of organic seed

In Lithuania, 46 producers are authorized to produce organic seed. This includes national and foreign seed companies, traders and specialized farmers. There is one big national organic seed company called Agrolitpa. In 2017, only 7 producers provided organic seed to the Lithuanian market. Most of them produce organic seeds for export. Cleaning and certification of the seed is often done abroad. The competent authorities estimate that only 2% of the seed demand from organic farmers in Lithuania is covered by organic seeds.

Many Lithuanian farmers use farm saved seed. Organic farmers may re-use their own seed, and this is accepted as organic seed. Although the exchange and sale of farm saved seed is forbidden, there is still a lot of uncertified seed on the market. Organic farmers are among the main buyers of certified seed (organic and conventional) because they must account for their seed use to their organic certifier.

3. Implementation of the EU regulation: the database and derogation policy

The Ministry of Agriculture is responsible for the organic seed database. The derogations are issued by Ekoagros, a state control institute and the only certifier in Lithuania.

On the organic seed database there is a list of varieties for which organic seed is available. For each variety the quantity of seed (kg/tons) that is available is visible in the database. The number of suppliers differs per year. For vegetables, there are 2 to 3 suppliers, for forage and arable crops 6 to 10 suppliers. Foreign companies can enter their seed offer on the database if their varieties are suitable for national growing conditions.

The users of the database can first choose the right crop and then the variety they need. If the requested variety is not available in the database, they can ask for a single derogation. Farmers must pay 7 EUR for each single derogation. There are seasons for derogation applications:
-preparing for spring sowing - from February 1 of the current year until the end of sowing;
-preparing for winter sowing - from July 1 of the current year until the end of sowing;
-preparing for perennial grasses for sowing - all year round.

There is also a general derogation list (checked by the Ministry and issued by Ekoagros) for crops for which no organic seed is available on the market for several years. This list is updated yearly.

4. Policy measures to increase production and use of organic seed

Organic seed producers in Lithuania receive extra payment from EU sources, channeled through the Rural Development Plan (RDP) 2014-2020, under measure “Organic Farming”. There are different payments for different crops.

LIVESEED is funded by the European Union’s Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

For instance: 273 EUR/ha for organic cereals and perennial grasses for seed; 298 EUR/ha for organic cereals and perennial grasses for seed under conversion to organic. The most important criterion is that the seed producer is included in the list of certified propagating material suppliers or has signed a contract with a supplier of propagating material.

If farmers use certified seeds, conventional or organic, they receive also a subsidy (for cereals, 16 EUR/ha) under the RDP, direct payments. Farmers that do not buy certified seed do not receive these EU subsidies.

5. Breeding research and field trials

At the Lithuanian Research Centre for Agriculture and Forestry there is a Department for cereal breeding. Although there is no special organic breeding programme, organic variety trials of promising winter and spring breeding lines are performed since 2004 in certified organic fields. Because of limited capacity, only Lithuanian varieties are tested.

In Lithuania, the Plant Variety Division of the State Plant Service under the Ministry of Agriculture is responsible for VCU testing. There is no official VCU testing for organic farming in Lithuania.

6. Constraints and opportunities

Research has shown that if you use organic and conventional seeds from the same variety, the conventional seeds give a higher yield. This is a disincentive for farmers to buy (more expensive) organic seed.

The main problem is that seed producers have no guaranty that they can sell their offer on the organic market in Lithuania. Internationally they get a better price.

Some varieties are not suitable for organic. There are, for instance, many problems with lupine. Currently, there are no suitable lupine varieties available for organic production.

Conventional breeders are doing some small-scale breeding for organic. The problem is they do not have organic testing fields.

An opportunity is that the Organic Farming Association sets up a seed expert group that, for instance, develops a list of varieties that are suitable for organic farming (they have the support of the Ministry in this activity).

7. Recommendations from the stakeholders

- Create a common (international) database for organic seed. The current national database is not easy to find by farmers.
- The availability of organic seeds on the market must be increased. Seeds from Poland might be suitable for Lithuanian farmers.
- Develop a list of varieties that are suitable for organic farming.
- Subsidize VCU testing under organic conditions.
- Create a seed expert group.
- Work on substances for organic seed treatment.
- Investigate and communicate the benefits of organic seeds.

8. More information

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Lithuanian organic seed database: www.vic.lt/?mid=432

General derogation list: https://www.ekoagros.lt/media/1/documents/Leidimas_2018_taisytas.pdf

Extra payment for seed producers: https://www.infolex.lt/ta/330965

Agricultural, Food and Fisheries program for 2015-2020: research and development activities - Lithuania:

http://zum.lrv.lt/uploads/zum/documents/files/LT_versija/Veiklos_sritys/Mokslas_mokymas_ir_konsultavimas/Moksliniu_tyrimu_ir_taikomosios_veiklos_darbu_galutines_ataskaitos/LAMMC%20veisles.pdf

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

8. Poland

Implementation of the regulation on organic seed in Poland

Findings from the national visit to Poland, 11-13 June 2018

1. General information

In 2017, there were 20,257 organic farmers in Poland covering 3,4 % (=495,000 hectare) of the agricultural land area. From this area 25,6 % is permanent grassland, 67,8 % is covered with arable crops and 6,6 % are permanent crops. *Source: Reports published by IJHARS in 2016-2018.*

2. Production and use of organic seed

Currently, there are around 60 organic seed producers in Poland, mainly farmers. The seed companies that are selling organic seed on the Polish market are predominantly foreign companies, e.g. Bejo and Vilmorin producing vegetables seeds. The Polish seed company Torseed started to produce organic seeds in 2004, when Poland entered the European Union, but stopped after several years because they found no market for their seeds.

The Polish organic seed database is an excel file with more than 600 varieties of different crops from more than 40 different suppliers. At least five suppliers offer vegetable seeds, the other suppliers offer seeds of forage and arable crops or vegetative planting material for fruit production.

From crops that are outside the scope of the EU Directive on seed marketing, e.g. millet, there are no additional requirements for seed producers, therefore every organic farmer can produce this seed and offer it on the database. There is also a separate list for seeds from farms being in conversion to organic farming. In 2018, three farmers offered seeds on this list.

There is a low use of certified seed in Poland. It is estimated that only 15% of the farmers use certified seed. Most farmers, both conventional and organic, re-use their own seed or buy uncertified seed. The use of farm saved seed is accepted as organic seed. Selling uncertified seed is illegal but buying is not. If a farmer uses farm saved seed from a protected variety, he is obliged to pay the so-called agricultural exemption fee to the breeder. However, farmers with less than 10 ha of agricultural land are exempt from this fee.

3. Implementation of the EU regulation: the database and derogation policy

The State Plant Health and Seed Inspection Service (PIORIN) is responsible for the management of the organic seed database. The database is updated once a month.

The Voivodeship Plant Health and Seed Inspection Services (in total 16) are responsible for granting the derogations. There is no general derogation list so if an organic farmer wants to use a variety for which no organic seed is available, they always need a derogation. When a Polish organic farmer asks for a derogation to use a certain variety, the regional authority checks if there are similar varieties available in the organic seed database. If this is the case the farmer does not get a derogation.

Within each voivodeship, the person considering the application for a derogation, compares the features of the requested variety with the varieties in the organic seed database on the basis of descriptions of varieties developed by COBORU (Research Centre for Cultivar Testing) and with a list of varieties recommended for the particular voivodeship. These COBORU lists for each voivodeship are updated each year. If the farmer disagrees with the decision from the regional authority, he can

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

submit an appeal. The regional authority will send this appeal to the national seed authority, where the case is reconsidered.

Agricultural advisors support farmers to prepare the derogation request. The whole process is carried out on paper. All voivodeships send every 4 months a summary of the data on derogations to the seed authority in Warsaw. The seed authority gathers the information from the 16 regional offices, then they send it to the Department of Organic Farming of the Ministry of Agriculture, which then sends it to Brussels.

4. Policy measures to increase production and use of organic seed

To increase the production and use of organic seed from varieties that are suitable for organic farming, a network of organic field trials has been established (see point 5).

5. Breeding research and field trials

In order to establish a list of varieties recommended for organic production, the Institute of Soil Science and Plant Cultivation - State Research Institute (IUNG-PIB) has developed a network of organic field trials in cooperation with COBORU. In 2018, organic field trials started for some winter (rye, wheat, triticale) and spring cereals (barley, oat, wheat). In the future, they expect to include grain legumes.

For vegetable crops, the Research Institute of Horticulture in Skierniewice has set up organic field trials. In addition, the seed company Bejo organizes demonstration fields in organic farms.

6. Obstacles and opportunities

There is no market demand for organic seeds and there is no economic incentive to produce organic seed for the Polish market. There is also a lack of trust between organic farmers and seed companies. Most farmers do not see the added value of buying certified seed in general, let alone buying (more expensive) organic seed. Except for the price, they see little difference between untreated conventional and organic seed, when it is the same variety.

Many registered farmers are not farming themselves. They only collect the subsidies as a landowner and let someone else do the work for them. Farmers are not proactive either to sell their organic products. They often sell their products on the conventional market. Therefore, the ambition to use organic or certified seed is low.

Most of the Polish organic vegetable products are processed and exported. Around 95% of the organic processing is in foreign hands. These companies tell farmers what varieties they should use, and they also deliver the seeds. The buyers of the organic products are not interested in organic seed, so the use of organic seed is not rewarded.

An opportunity is the fact that some farmers use organic seed out of principle. The Association of Organic Farmers EKOŁAN multiplies seeds from old (gene bank) varieties organically, which are exchanged among the members. The farmers produce cereals like spelt, einkorn and emmer, and process them into pasta or flakes. Around 70% of the products are sold directly to consumers, mainly in Poland.

7. Recommendations from the stakeholders

- The derogation policy should be changed. If this would be stricter, Torseed would start again with the production of organic seeds.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

- Training on organic seed production for farmers producing their own seed should be offered by the state advisors or seed authorities.
- Make sure that there is more offer of organic seed from varieties that are asked by the processing industry.

8. More information

Polish seed database:
http://piorin.gov.pl/rolnictwo-ekologiczne/wykaz-materialu-ekologicznego/

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

9. Romania

Implementation of the regulation on organic seed in Romania

Findings from the national visit to Romania, 12-15th March 2018

1. General information

In 2017, there were 7,908 organic farmers in Romania covering 1,77% (258,471 ha) of the agricultural land area. From this area 19,61% is permanent grassland, 71,53% is covered with arable crops and 5,09 % are permanent crops (Source: The World of Organic Agriculture – Statistics & Emerging Trends 2019).

2. Production and use of organic seed

Farmers are the main producers of organic (and conventional) seed in Romania. There are over four thousand farmers registered as seed producer and above one hundred of them are organic farmers. To be authorised as a seed producer, farmers must know the seed regulation in force and pass an exam with the local seed authorities. When a farmer is registered as a seed producer, the field is inspected, the seed quality is tested, and their seed is certified. The seed companies that sell organic seed on the Romanian market are predominantly international companies.

Many organic farmers in Romania re-use their own seed. This farm saved seed is accepted as organic seed, so no derogation is needed for this.

3. Implementation of the EU regulation: the database and derogation policy

The organic department from the Ministry of Agriculture and Rural Development is responsible for the Romanian organic seed database. The database is a PDF file on the Ministry's website. There is a separate list for seed mixtures. This list is currently empty.

There are 41 counties in Romania, and in every county one person is responsible for all organic issues, including the rules on organic seed. To offer your seed on the database you must prove that you are an authorised seed producer or supplier and your seed must be certified organic. Seed suppliers must submit all documents on paper to the county level agricultural authority. The Ministry uploads all information to the online database as soon as a change in the seed offer has been communicated. For seed mixtures a special form must be used. Foreign companies that want to enter the database need a branch (legal basis) in Romania and the company must register at the county level. Their seed must be certified as organic by a Romanian certifier.

The certifiers are responsible for granting the derogations. Farmers must request a derogation three months before cultivation. To receive a derogation, they must prove that there is no organic seed available from the variety they want to use. To prove this, they have to ask 2 or 3 (depending on their certifier) seed suppliers for organic seed. If those suppliers declare on paper that they cannot deliver it, the farmer will get a derogation. There is no general derogation list.

4. Policy measures to increase production and use of organic seed

From 2015 to 2018, the Ministry of Agriculture and Rural Development funded a research project aiming to develop organic seed production for the main arable crops. The project included several field trials and organic seed production at NARDI Fundulea and at experimental stations in Pitești, Valu lui Traian (Constanța) and Șimnic (Dolj).

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

At the NARDI research centre there are ongoing organic comparative field trials for arable field crops (wheat, barley, triticale, oat, millet, buckwheat, maize, peas, lentils, lupine, soybean, camelina, sunflower), forage crops (alfalfa, trifolium, grasses) and medicinal crops (coriander, Phacelia, *Crambe tataria*). NARDI Fundulea also participates in breeding research in the LIVESEED project and in the European project 'Eco-Breed' with wheat and soybean. Romania is member of the Danube soya initiative. This is mainly a conventional initiative for the production of non-GMO soya, but they also organise field trials on organic farms.

5. Obstacles and opportunities

One obstacle is the fact that the current seed database is not functional. Most organic seed that is on the market is sold directly to farmers and not offered on the database. Therefore, the database is not used by farmers. The certification bodies do not rely on the organic seed database either. They ask the farmers for additional prove to show that organic seed from a specific variety is not available.

The database is also difficult to access for seed suppliers. The deadline for putting seed on the database does not match with the process of seed cleaning and registration. Seed producers know only after this deadline how much organic seed there will be available for sale.

Many farmers produce organic to receive more European subsidies. They do not sell their products on the organic market and they are not interested in organic seeds.

Farmers can also easily circumvent the use of organic seed. They just ask for a variety for which no organic seed is available. Sometimes farmers even invent variety names when asking for a derogation.

An organic farmer mentioned that his organic products were decertified due to the fact that the certifier found residues of chemicals in his seed. He used untreated conventional seed for which he received a derogation. According to one of the certifiers it is sometimes questionable if the conventional seeds that are used are really untreated. The question is how to check this, since untreated conventional seeds may also contain residues.

Although there is not enough organic seed available for any crop to fulfil the demand, it is quite easy for farmers to access organic cereal seed. For crops with many hybrids like maize, sunflower and rape seed, the seed access is more difficult. Big seed companies that produce hybrids are not interested in producing for the small organic market; they see no market for organic seed in Romania.

Vegetables are a niche which is weakly developed in Romania. Therefore, there are no organic seeds from suitable varieties available. In cases where the farmer produces organic products under contract, the buyer of the product usually decides what varieties are used and they also deliver the seeds.

According to one seed company the problem for organic farmers is not the lack of good genetics (varieties), but the farm management and the preparation of the soil. Many farmers have not learned how to manage a farm.

An opportunity is the fact that there are many skilled organic farmers in Romania that are registered as seed producer, e.g. in the Tulcea region which has the largest area of organic farming. This is due to the fact that the Danube Delta Biosphere Reserve is located nearby. Only organic farming is allowed in this Natura 2000 area. In this region, a cooperative of large farmers is aiming to become self-sufficient in their organic seed production. They have their own seed cleaning factory and sell the cleaned seeds directly to their members.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

6. Recommendations from the stakeholders

- Create incentives for seed producers and farmers to make organic seed more attractive.
- Research institutes that have a production part are potential producers of organic seed.
- Create a market for organic seed; increase the demand. If there is a demand, more companies will offer organic seed.
- Find the right crops to grow organic in Romania and then invest in adapted varieties. Focus on specific crops e.g. soy seeds.
- The production of seeds should be closer to the demands of consumers; it is important to select suitable organic cultivars and breed new ones.
- Romanian people are looking for quality food even if they are poor. This is a cultural aspect and an opportunity for organic farmers and producers.
- Reduce the administrative burden; some seed producers work organic but are not certified, because it is a very bureaucratic process.
- Create an expert group on organic seed.
- Subsidise the use of organic seeds.
- Currently most organic farmers export their products. Creating a market here will help to create a market for organic seeds.
- Make it easier for seed suppliers to remove seed offers from the database or to enter new seeds; currently this is very complicated.
- Education and practical trainings about organic farming and breeding are needed.

7. More information

Romanian seed database:
https://www.madr.ro/agricultura-ecologica/baza-de-date-seminte-sii-ae.html

Derogation reports:
https://www.madr.ro/agricultura-ecologica/baza-de-date-seminte-ecologice.html

National legislation for organic farming:
https://www.madr.ro/agricultura-ecologica/legislatie-nationala-ae.html

Research:
http://www.incda-fundulea.ro/index_en.html
http://www.donausoja.org/en/home/

Database of seed producers http://date.incs.bvl.ro/agenti/agenti_public.aspx

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

10. Spain

Implementation of the regulation on organic seed.

Findings from the national visit to Spain 16-21st April 2018

1. General information

There are 36,207 organic farmers in Spain covering 8,7 % (two million hectares) of the agricultural land area. From this area 52,1 % is grassland, 24,4 % is covered with arable crops and 23,5 % are permanent crops. (Source: IFOAM EU 2016). Andalucía is the main organic producing region covering around 47% of the total Spanish organic production. Castilla La Mancha covers 18% of all organic land.

2. Production and use of organic seed

There are two seed associations in Spain (ANOVE and APROSE) representing national and international conventional seed companies. Some of their members, for instance Intersemillas SL, also sell organic seeds. Around 20 seed producers and trading companies offer organic seed on the Spanish seed database. Most of the organic seed comes from foreign companies.

In addition, there are many regional seed networks in Spain aiming to increase agrobiodiversity and fostering the use of traditional varieties. *Red de Semillas* is the national organisation coordinating the regional networks that are involved in conservation and multiplication of traditional seeds for organic farming.

For the production of vegetables organic farmers often use organic transplants. According to the transplant producers, the majority of the seeds used are untreated conventional seeds. Transplants from organic seed are on average 10-25% more expensive.

The use of farm-saved seed by organic farmers is very low (1% or less of the total). This is mainly due to the fact that organic farmers must prove to the authorities that they used certified seed in order to receive European subsidies. Only very few small producers preserve and exchange their seeds and sell the products (fruits, vegetables, bread) on local organic markets. In terms of cereals, some farmers from Catalonia and Malaga (Andalusia) still preserve and grow open pollinated materials in organic.

3. Implementation of the EU regulation: the database and derogation policy

The National Ministry of Agriculture, Fisheries, Food and Environment (MAPAMA) is responsible for the management of the organic seed database. The autonomic regions are in charge of the implementation of the organic regulation and the derogation process.

In 2017, there were 727 varieties offered on the organic seed database, mainly from vegetable crops. To enter an offer on the seed database a seed supplier must apply at the competent authority from one of the 17 regions. They check if the company complies with the seed law and is certified organic. This information is sent via mail to the Ministry, which then enters the offer to the database. The organic seed database is updated twice a year. In Andalucía and Catalonia, the regional authorities have delegated the derogation process to the control bodies (certifiers).

Farmers can request derogation at their certifier if they want to use a variety that is not offered on the seed database. To prove that organic seed from this variety is not, or no longer available, they must add a screenshot from the database and an email from the seed company. Once a year, the regional authorities send an update to the national Ministry which prepares the national report.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

In case conventional seeds are used, farmers must prove that their seeds are untreated with a declaration from the seed producer.

4. Policy measures to increase production and use of organic seed

The Valencian Agricultural Diversity Plan, which started in 2016, has the objective to guarantee the conservation of Valencian local varieties and their dissemination. The traditional seeds conservation centre in Valencia describes and conserves cultivars. They focus on regional cultivars from vegetables that are not (or no longer) registered and commercialised but still are interesting for farmers.

Part of the plan is to promote the use of traditional varieties within organic farming. Therefore, a network of organic multipliers has been created. Organic farmers who want to multiply the seeds sign a contract with the seed centre. A disclaimer in the contract states that the seeds are not commercial. The farmers can use the seeds for themselves and within the network, but they cannot sell them to others. The seed users are mainly small organic producers, producing for the local market.

5. Breeding research and field trials

Since the 1980's, researchers at the SERIDA Institute have been devoted to the conservation of apple landraces and to breeding for organic cultivation, with special focus on Northern Spain (Asturias). They are considered a pioneer group in organic breeding in Spain.

Several research institutes are gradually expanding their efforts in organic breeding in recent years.

The financing is primarily based on public funds from European, national or regional research programs. In the past 5-10 years, new lines of research have been developed in Valencia (Universitat Politecnica de Valencia) for organic breeding in vegetables.

Currently, there is also a national project (funded by INIA-Spain) focusing on Capsicum peppers landraces. Around 100 landraces were tested, also under organic conditions. They performed well in organic cultivation in the open field. The first 15 varieties have been selected for higher scale trials and for more locations in the coming years. Next step will be introgression of resistances to some (main) viruses that modern varieties have.

6. Constraints and opportunities

There is not enough organic seed available on the Spanish market and at the same time there is not enough demand for organic seed. Most organic farmers ask for a certain variety, not for a type of seed (conventional or organic). They want top quality varieties with the newest resistances. They see no advantage in the use organic seed. It is only more expensive.

Since there is no clear demand for organic seed and farmers can easily get a derogation to use cheaper conventional (untreated) seed, there is no incentive for conventional seed companies to invest in organic seed production. They have no confidence they can sell their organic seed to Spanish farmers. According to some Spanish seed companies, organic seed is currently not a profitable business in Spain because a high diversity of varieties is used, and the amount of organic seeds needed per variety is too small. They lack information about the varieties that organic farmers prefer.

The seed database is only updated twice a year; therefore, the information is often outdated.

The seed marketing legislation hinders the use of organic seed from traditional and local varieties. For some farmers it is a problem that the exchange and sales of uncertified seeds is not allowed. They are

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

forced to buy seeds from seed companies. At the same time the local varieties they produce cannot be submitted for certification.

There is no good definition of organic seed in the organic regulation; traditional seeds are not mentioned. The regional authorities fear that strict rules for the use of organic seed might threaten the agrobiodiversity and limit the use of traditional seeds. They see a strong movement to increase the use of local varieties.

The MEC-ECO meeting, where all the regional authorities meet, could be a good opportunity to discuss organic seed and the development of a common strategy, for instance, to improve the seed database. Another opportunity is that the regional initiatives promote the use of (organic) seed from local varieties. In Valencia, there is a regional seed network for traditional varieties. In this group they also look at the derogations and if there is a high demand for a certain variety the organic farmers in the network start producing organic seed from that variety.

7. Recommendations from the stakeholders

- The seed regulation needs to be adapted; the exchange of seeds among farmers should be allowed. Now farmers are forced to buy seeds from seed companies.
- The big conventional seed companies that now dominate the organic market should receive less prominence. Stricter regulation is needed to force seed companies to produce more organic seed.
- Make it more difficult for organic farmers to get a derogation to use conventional seed.
- Create incentives for farmers to use organic seed. If supermarkets would ask for organic seed, everything would start to change; the market is decisive.
- Farmers need teaching about organic agriculture including seeds; a helpdesk for organic farmers is needed.
- There is a need for organic field trials to test which varieties preform best under organic conditions.
- The responsibility to increase the production of organic seed should lay with the control bodies/competent authority. The certifiers should engage with the seed suppliers and push for more organic seed production, only then the farmers can be obliged to buy it.

8. More information

Organic seed database:
www.mapama.gob.es/app/EcoSem/ListadoSemillas.aspx?idPro=-1&idEs=-1&idPa=100000

Link to the National 'interpretation' of the organic regulation 'MECOECO'
https://www.mapa.gob.es/es/alimentacion/temas/produccion-ecologica/programacontrolecoactualizadoversdic2018_tcm30-379436.pdf

Red de Semillas: www.redsemillas.info

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

ANNEX III. Dates and Stakeholders interviewed

Bulgaria

Date	Place	Stakeholder/Institute/Authority
February 7, 2018	Sofia	Meeting with seed producers, seed traders and researchers
February 8, 2018	Sofia	Meeting with certifying bodies; Balkan Biocert, Control Union, Q Certification, CERES
February 8, 2018	Zvanichevo village, Pazardjik	Visit to Gimel organic glasshouse farm
February 9, 2018	Sofia	Meeting with farmers and the farmers' association
February 9, 2018	Sofia	Meeting with representatives of the Bulgarian Ministry of Agriculture, Food and Forestry (MAFF)
February 9, 2018	Lesnovo village, Elin Pelin	Visit to organic vegetable producer

Estonia

Date	Place	Stakeholder/Institute/Authority
September 5, 2017	IFOAM EU conference, Tallinn	Researchers from the Estonian Crop research institute (ETKI)
September 6, 2017	IFOAM EU conference, Tallinn	Representative from the Ministry of Rural Affairs
September 6, 2017	IFOAM EU conference, Tallinn	Estonian Organic Farming Foundation
September 7, 2017	Ministry of Rural Affairs, Tallinn	Representatives from the -Agricultural board of the Organic farming and Seed Department - the Ministry of Rural Affairs -the Estonian Seed Association

Greece

Date	Place	Stakeholder/Institute/Authority
February 4, 2018	AGROTICA International Agricultural Fair, Thessaloniki	Workshop with Breeders, Certifiers, Organic farmers' association and seed producers
February 5, 2018	Thermi	Visit of Litsas' historical Organic Farm

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

February 5, 2018	Institute of Plant Breeding and Plant Genetic Resources (IPBGR), Thermi	Meeting with breeders and Researchers of IPBGR and representatives of the North Greece Organic Farmers' Union, Certifier BioHellas and the Union of Organic Products Certifiers
February 6, 2018	Ministry of Agriculture, Athens	Meeting with the director of the Department for Plant Biological Products and the manager of the Organic Seed Database
February 6, 2018	DIO, Athens	Meeting with the president of the organic certification body DIO

Hungary

Date	Place	Stakeholder/Institute/Authority
November 21, 2017	ÖMKi Office – Budapest	Interviews with arable and vegetable organic farmers
November 22, 2017	ÖMKi Office – Budapest	Interview with representative of the Ministry of Agriculture
November 22, 2017	Hungarian Seed Association, Budapest	Meeting with the managing director of the Seed Association
November 23, 2017	Biocontrol office, Budapest	Meeting with representatives of the organic inspection and certification body, Biokontroll and of the Biokultura farmers association
November 23, 2017	Centre for Agricultural Research, Hungarian Academy of Science, Martonvásár Breeding Station	Meeting with researchers and representatives of NÉBIH (National Food Chain Safety Office), authority for seeds
November 24, 2017	Csoroszlya farm, Szár	Visit of the farm and meeting with the farmers that are also seed producers

Italy

Date	Place	Stakeholder/Institute/Authority
September 4, 2018	CAE office, Rome	Meeting with representatives from Italian organic farmers unions: Anabio, Association Biodynamica, AIAB and Rete Semi Rurali
September 5, 2018	Isola del Piano	Meeting with representatives of Conmarchebio organic Consortium (= a consortium of several cooperatives of farmers

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

		and processors) and the Italian seed supplier AGROSERVICE
September 5, 2018	Isola del Piano	Visit of pasta factory from the Conmarchebio organic Consortium
September 5, 2018	Isola del Piano	Visit of arable farm, member of the cooperative Conmarchebio
September 6, 2018	Monsampolo	Meeting with representatives from the Italian national public research institution CREA (Council for Aricultural Research and Economics)
September 6, 2018	Cesena	Meeting with and tour at CAC. Coop. Agricola Cesenate (a farmer's cooperative that multiplies seed for seed companies)
September 6, 2018	Cesena	Meeting with representative from Arco Iris producer of organic and biodynamic seeds
September 7, 2018	SANA fair, Bologna	Meeting with Control Body Bioagricert
September 7, 2018	SANA fair, Bologna	Meeting with representatives from seed producer associations Assosementi and Asseme and with seed producer Isi Sementi
September 7, 2018	SANA fair, Bologna	Meeting with representatives from the ministry of agriculture and forests (Mipaaf) and Crea
September 8, 2018	SANA fair, Bologna	Public meeting with representatives from the ministry of agriculture and forests (Mipaaf), Crea and Acro Iris

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Latvia

Date	Place	Stakeholder/Institute/Authority
September 8, 2017	Ministry of Agriculture, Riga	Meeting with representatives of the Ministry Agriculture and the Association of organic farming
September 8, 2017	Plant protection services, Riga	Meeting with the manager of the organic seed database, and with a representative of the Latvian seed producer's association
September 9, 2017	Siguldas novads	Visit to an organic arable farm; meeting with the farmer that is also seed producer
September 9, 2017	AREI organic fields in Priekuļi,	Visit of the organic field trials with AREI researchers
September 9, 2017	AREI office, Priekuļu novads	meeting with representative of an organic certification body

Lithuania

Date	Place	Stakeholder/Institute/Authority
September 11, 2017	Chamber of Agriculture of the Republic of Lithuania in Kaunas	Meeting with representative from the Lithuanian Ministry of Agriculture, the Organic farming association, the seed database manager, the certifier PI Ekoagros, seed trading organization "Agrolitpa", several organic farmers, organic seed producers and researchers
September 11, 2017	Chamber of Agriculture of the Republic of Lithuania in Kaunas	Separate meeting with representative from the Lithuanian ministry of agriculture and the Organic farming association.

Poland

Date	Place	Stakeholder/Institute/Authority
June 11, 2018	Pokrzydowo	Meeting and tour at Babalski organic farm and processing factory, also chairman of Association of Organic Farmers EKOŁAN
June 11, 2018	Toruń	Meeting with representative of TORSEED seed company

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

June 12, 2018	Warsaw	Meeting with head of the BIOEKSPERT Certification Body
June 12, 2018	Ministry of Agriculture, Warsaw	Meeting with representatives of the Ministry of Agriculture and The State Plant Health and Seed Inspection Service (PIORIN)
June 13, 2018	IUNG-PIB, Pulawy	Visit of field experiments with testing of cereal cultivars for organic farming in IUNG-PIB
June 13, 2018	Wola Skromowska	Tour and meeting with vegetable farmer who is also the chairman of the Polish Association of Organic Farmers

Romania

Date	Place	Stakeholder/Institute/Authority
March 12, 2018	Ministry of Agriculture and rural development, Bucharest	Meeting with representative from the Ministry of Agriculture and rural development, with the manager of the organic seed database and with a representative from the National Inspection for Seed Quality
March 12, 2018	Romanian Agriculture and Forest Academy (ASAS)	Meeting with representatives from ASAS, the Central Laboratory for Control of Seeds, from the State Institute for Cultivars Testing and Registration (ISTIS), certifier Ecocert, the union of (international) seed producers (AISR) and the association for organic operators Bio Romania.
March 13, 2018	ANSEM, Bucharest	Meeting with the Romanian Association of Breeders, Producers and Traders of Seed and Propagating Material (AMSEM)
March 13, 2018	Belciugatele	Visit of French seed company MAISADUR
March 13, 2018	NARDI, Fundulea	Visit Research Center for Ecological agriculture of NARDI
March 14, 2018	Tulcea	Meeting with farmers, traders, control bodies, seed producers, regional competent authorities, regional seed authority
March 14, 2018	Tulcea	Meeting with farmers from BIOCOOP farm

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

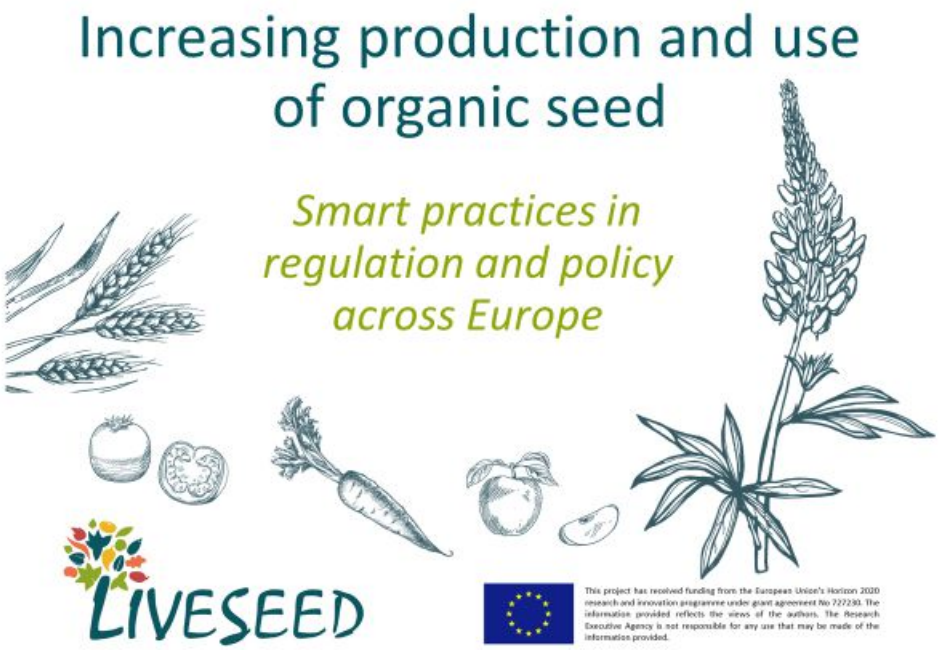
Spain

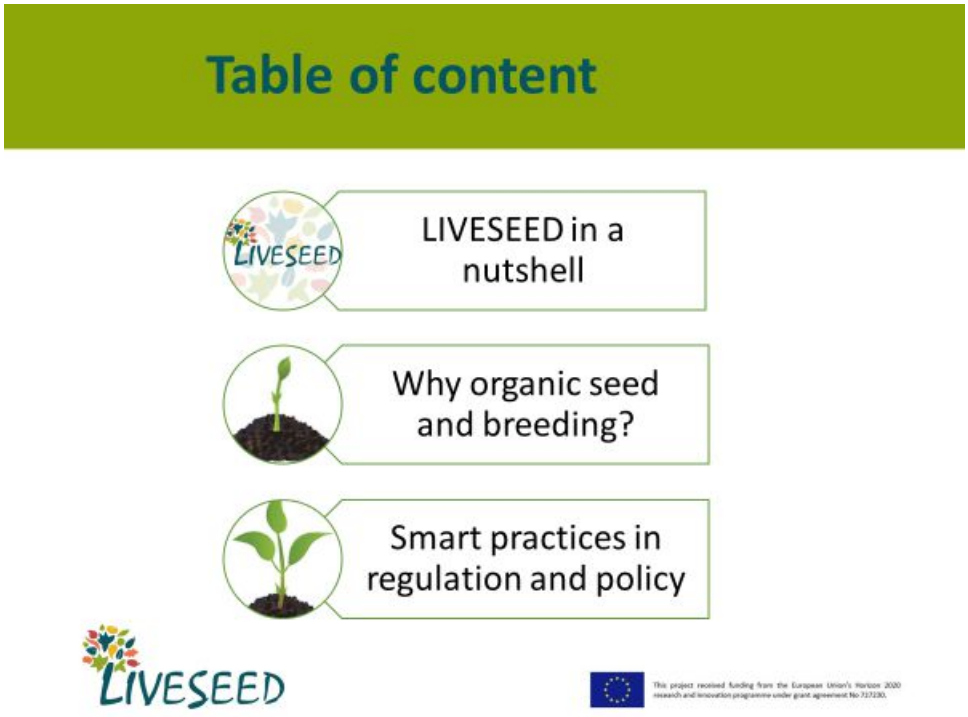
Date	Place	Stakeholder/Institute/Authority
April 16, 2018	Sevilla	Meeting with representative from the regional competent authority
April 16, 2018	Near Sevilla	Meeting and visit Biovegs vegetable farm
April 16, 2018	Sevilla	Online meeting with representative from Certification body CAAE
April 17, 2018	Sevilla	Meeting with farmers and seed producers
April 17- April 19, 2018	*Valencia*	*Annual meeting LIVESEED project*
April 19, 2018	Carcaixent, Valencia	Meeting and tour at the traditional seed conservation centre
April 20, 2018	Carler, Valencia	Meeting with representatives from the Regional competent authority of Valencia and from Semi-Public organic control body CAECV
April 20, 2018	Cajamar, Valencia	Meeting with representatives from seed company Intersemillas
April 20, 2018	Cajamar, Valencia	Visit research centre Cajamar
April 20, 2018	Alginet, Valencia	Visit organic seedling producer Planters Peris SL
April 21, 2018	Orihuela, Valencia	Visit organic seedling producer BabyPlant SL

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

ANNEX IV. PRESENTATIONS DURING NATIONAL VISITS

A) LIVESEED and Smart practices from Europe





LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

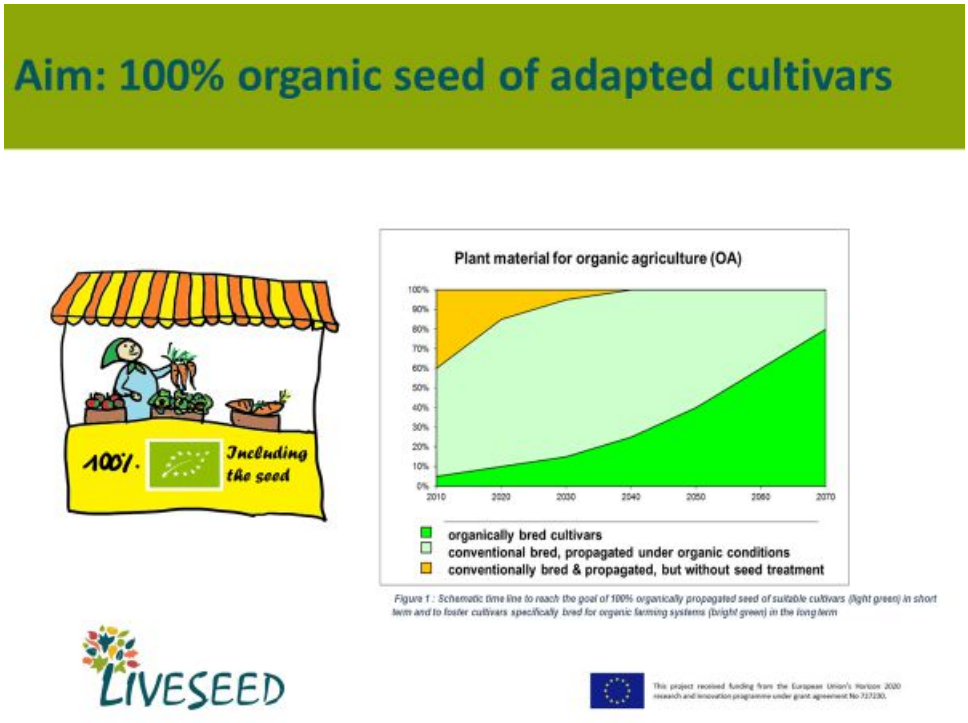


Figure 1 : Schematic time line to reach the goal of 100% organically propagated seed of suitable cultivars (light green) in short term and to foster cultivars specifically bred for organic farming systems (bright green) in the long term

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Main objectives

Policy & regulation
Provide a level playing field for the use of organic seed and variety registration across Europe

Research & development
Develop innovative approaches in organic plant breeding and improve quality of organic seeds

Socio-economics
Increase accesability of organic seed and adoption of new cultivars

Economy & market
Improve the competitiveness of the organic seed supply chain

Communication & network
Enhance knowledge exchange & rise awareness on the benefits of organic plant breeding and seed

LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

WP 1 policy and regulation

- *Improve the implementation of the regulation and policies on organic seed*
- *Create incentives for farmers to use organic seed*
- *Increase the availability and transparency of the organic seed market through organic seed databases*

LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

WP 1 policy and regulation

National visits to 12 member states

- Learn about national policies and derogation practices
- Identify bottlenecks and opportunities
- Collect and share smart practices
- Identify and get connected to important stakeholders
- Explain the router database
- Prepare regional workshops

LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

Why organic seed and breeding ?

- Organic farmers use organic inputs
- Increase the integrity of your product
- Live up to consumer expectation
- Lower risk of residues

LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

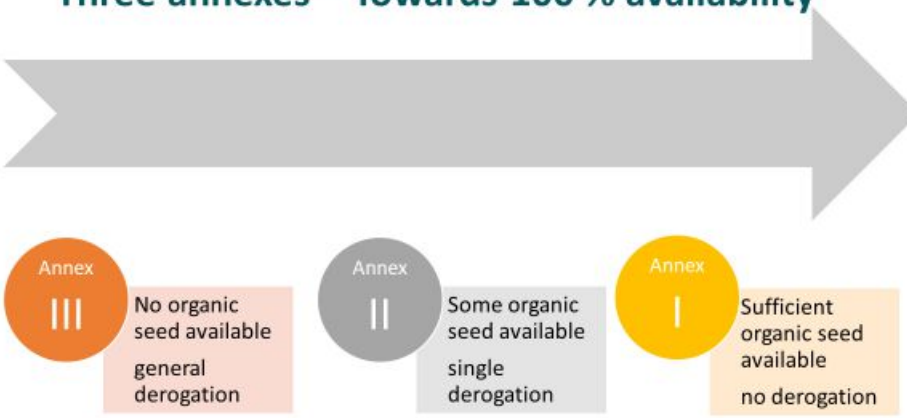
Why organic seed and breeding ?

- organic farmers need adapted cultivars
  - of good quality
  - adapted to low input
  - good weed suppression
  - disease resistance
  - resistant to (a)biotic stress

⇨ **robust cultivars**

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

Three annexes – Towards 100 % availability



Note: Annex is used as synonym for category
Derogation is used as synonym for authorisation

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Smart practices
expert groups

- Give advice to the government
- 1 group for all organic seed issues (France, Latvia)
- Different groups for different crop types
  -> arable crops , vegetables , vegetative material
- With relevant stakeholders:

farmers, seed companies,
certifiers, researchers

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

Smart practices
The National Annex or category 1

- A National list of (sub) crops for which "no derogation" is possible

- Allow derogation for:
  - ✓Research/field trials
  - ✓Conservation purposes
  - ✓Specific circumstances-> mildew in lettuce

- Clear criteria to place (sub)crops on this list

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

For example
The Dutch database

Category 1 National Annex (no derogation possible)	Category 2 (arguments are needed for derogation request)	Category 3 (general derogation is granted)
Cereals: Spelt wheat Winter wheat Summer wheat Spring barley Winter triticale	Cereals: Buckwheat Oat Winter rye	Cereals: Durum wheat Summer rye Summer triticale Winter barley Sorghum

LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

smart practices
Increase production and use of organic seed

- Estonia: 20% higher EU subsidies for use of organic seeds (per ha)
- Latvia: mandatory training for organic farmers
- Lithuania: extra payment for organic seedproducers

LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

smart practices
strict derogation rules

- Minimize the list of general derogations
- Ask for a 'personal' motivation from the farmers
- Make farmers pay for derogations
- Use of non derogation list
  -> Category /Annex 1

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

Practices Around Europe
Crop specific rules

- Fruit trees:

Farmers have to order on time (>1,5 year in advance)

- Potatoes:

Farmers have to order their seed potatoes before February 1
-> after that date no derogation

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

B) National and European Router Databases

LIVESEED

Task 1.3.1 - National seed databases
and
Task 1.3.2 - European router database
Task lead: FiBL DE – Freya Schäfer

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230. The information provided reflects the views of the authors. The Research Executive Agency is not responsible for any use that may be made of the information provided.

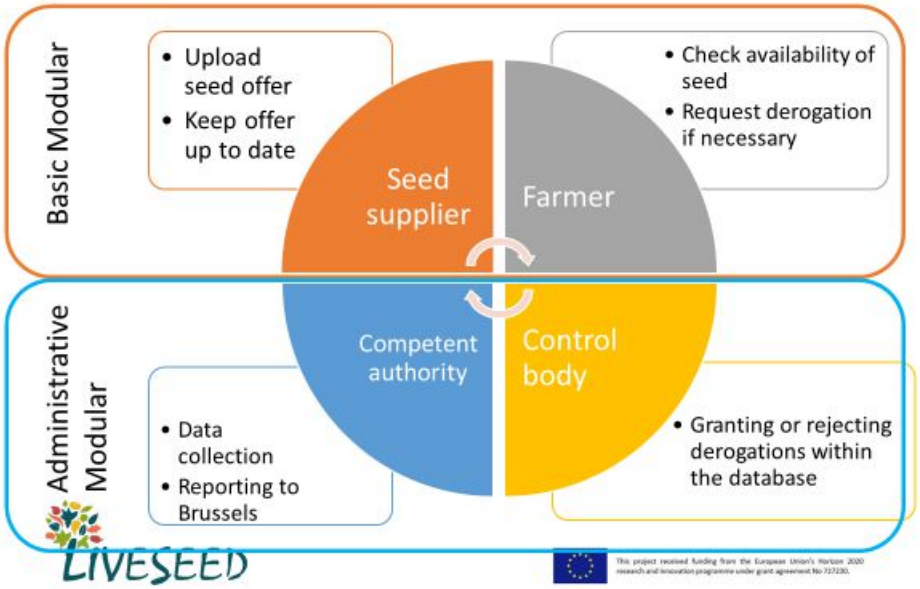
Organic seed databases - Development in the EU

- 80ies: no EU organic Reg.
  - private standards, production cooperatives, no obligation, no control, voluntary basis to use organic seeds
- 90ies: EU Reg. introduction
  - Organic if available (availability fax)
- 2004: 1st EU regulation revision regarding organic seeds
  - Idea to prohibit conventional seeds was not realistic
  - Prohibition to use chemically treated seeds, no derogation
  - Obligation for each EU country to setup an organic seeds database for transparency, different implementation in EU countries
  - Derogation for conventional untreated seeds still possible
- Since 2015: 2nd EU regulation revision
  - Ongoing, no derogation from 2021 on??

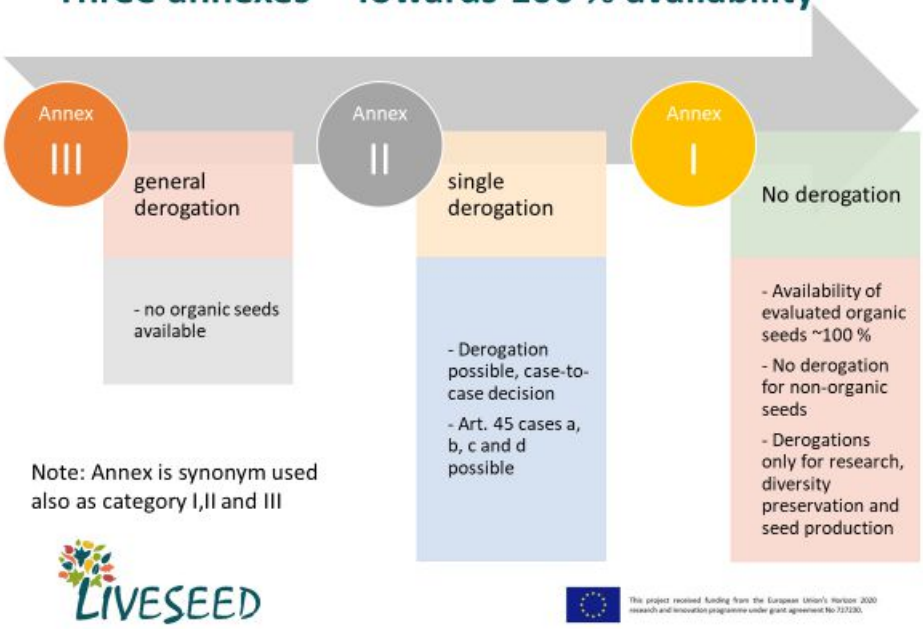
This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Example on an organic seed database

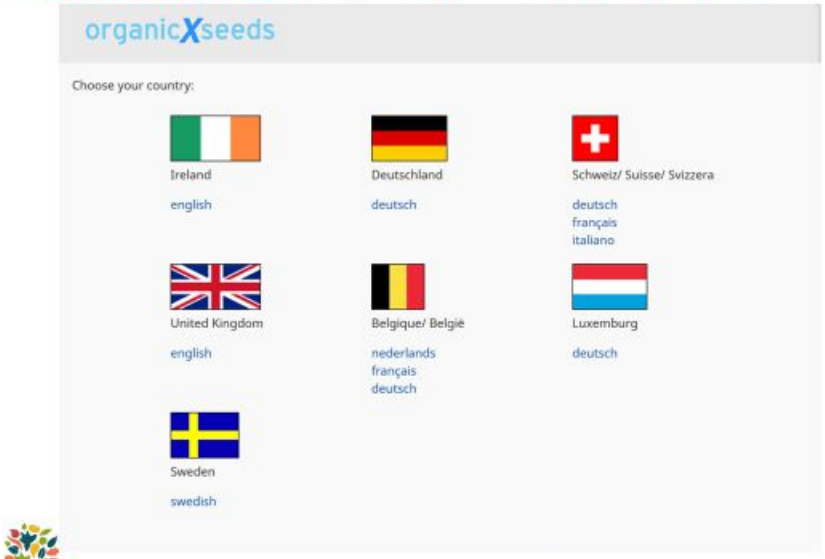


Three annexes – Towards 100 % availability

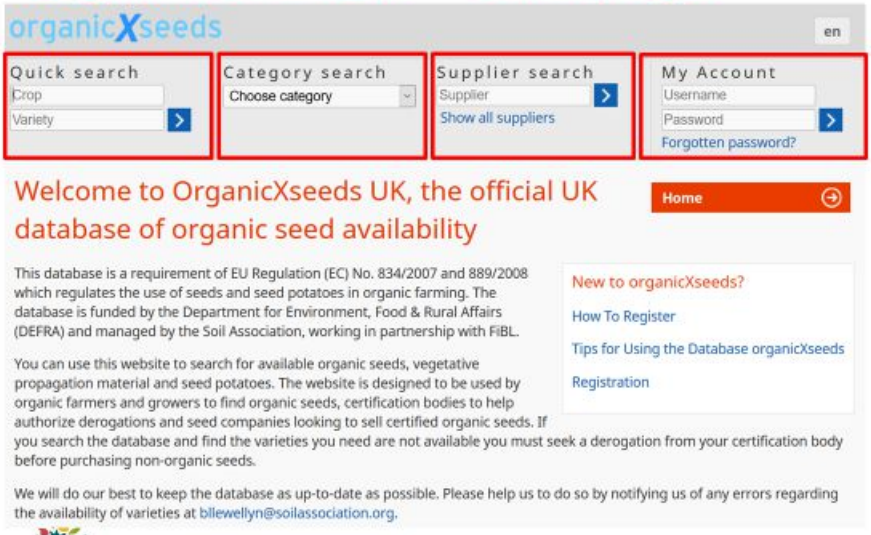


LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

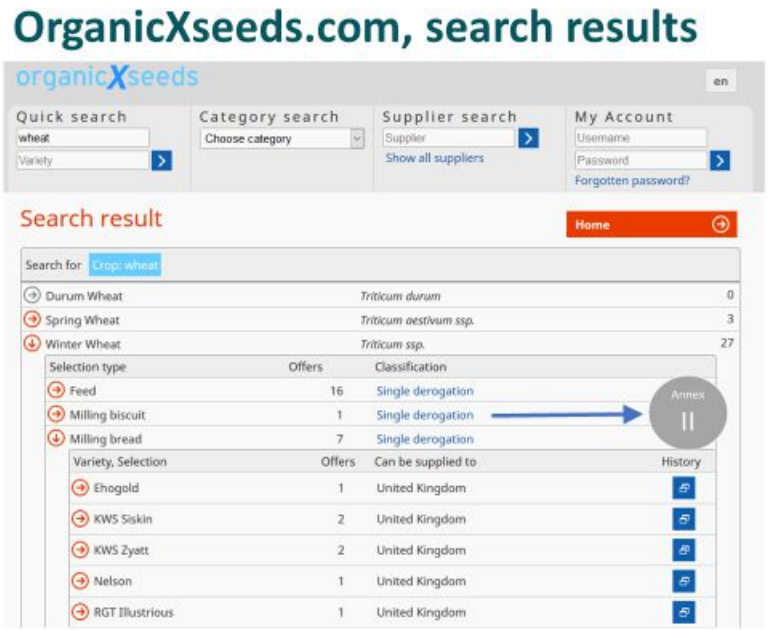
OrganicXseeds.com established in 2005



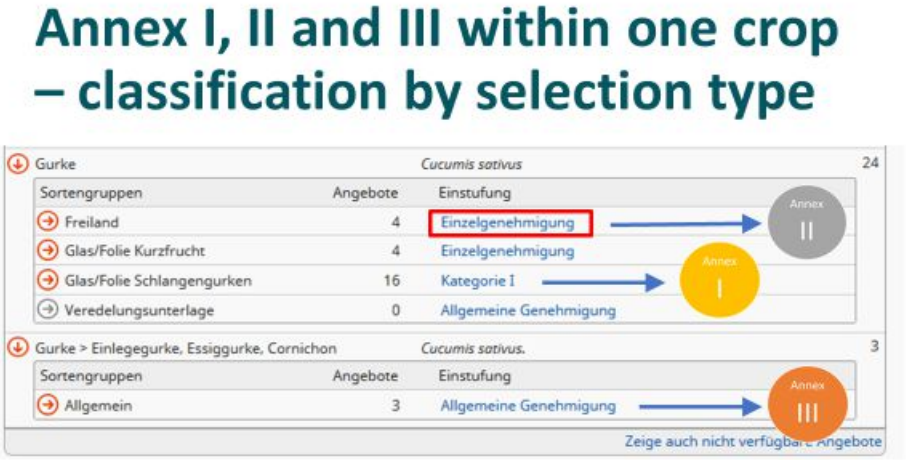
OrganicXseeds.com – search, login



LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

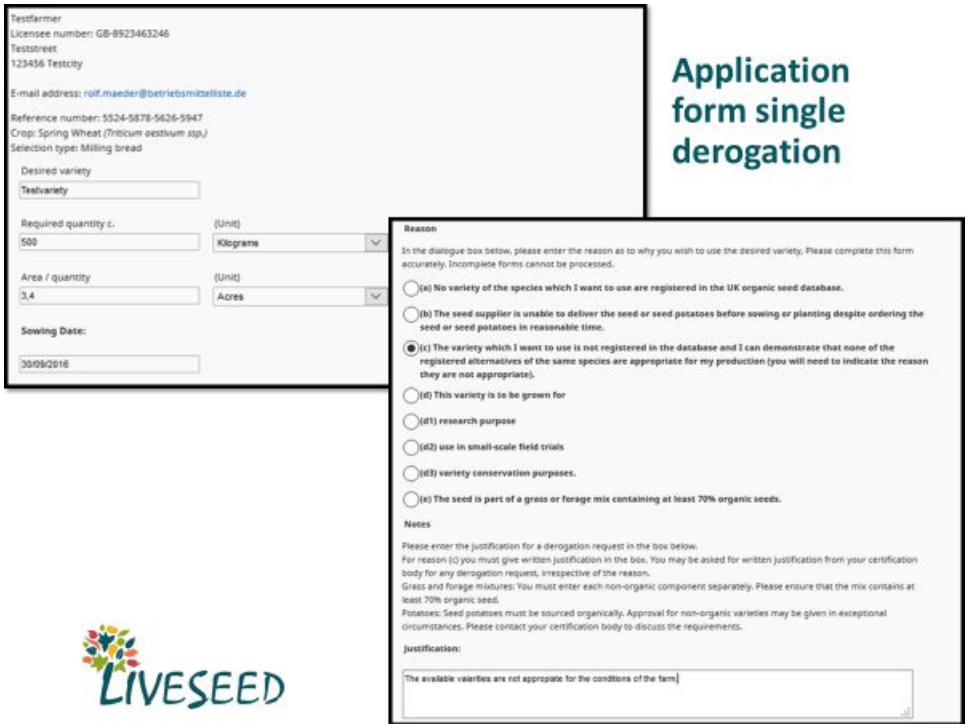


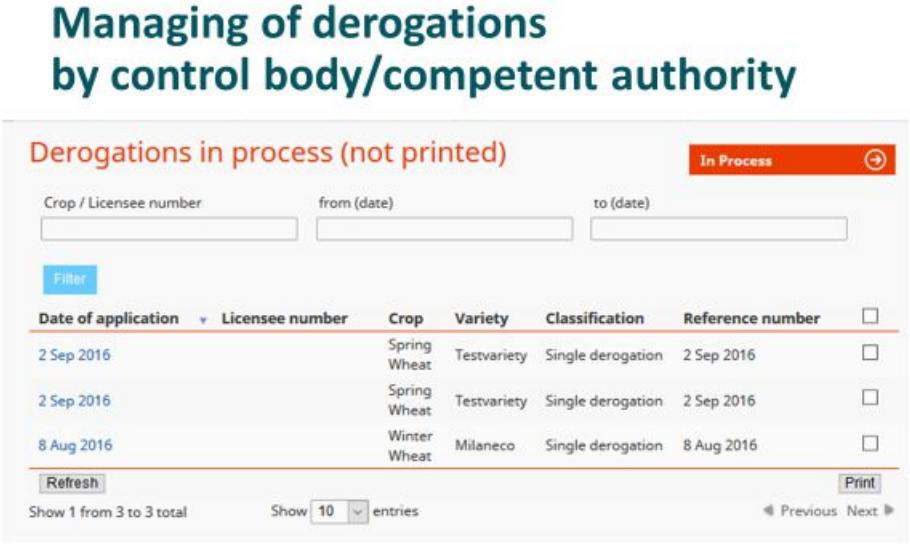
Shown example: Wheat (*Triticum ssp.*) search results in United Kingdom



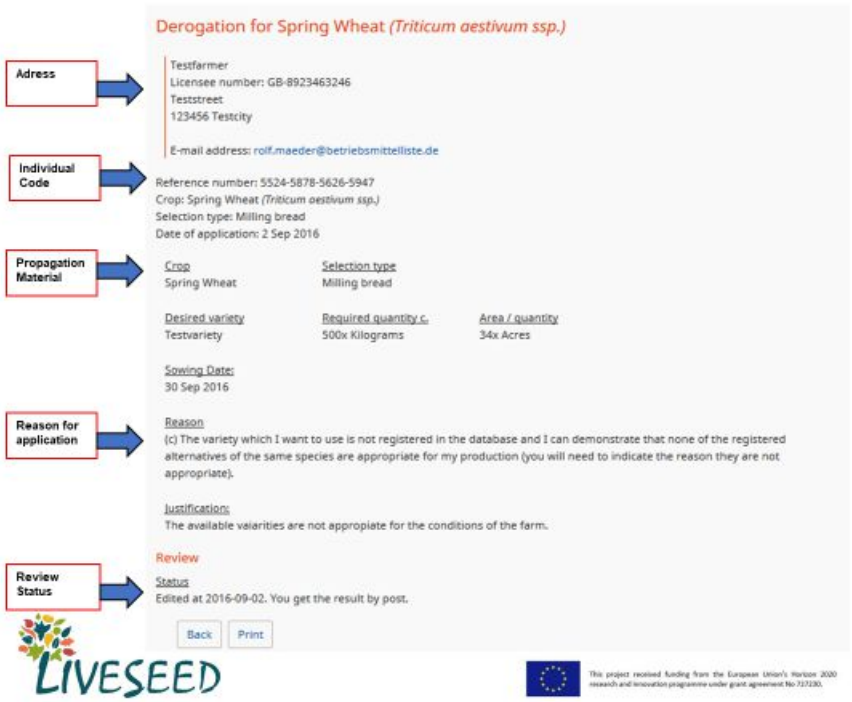
Shown example: Cucumber (*Cucumis sativus*) classification by selection type and Annexes in Germany

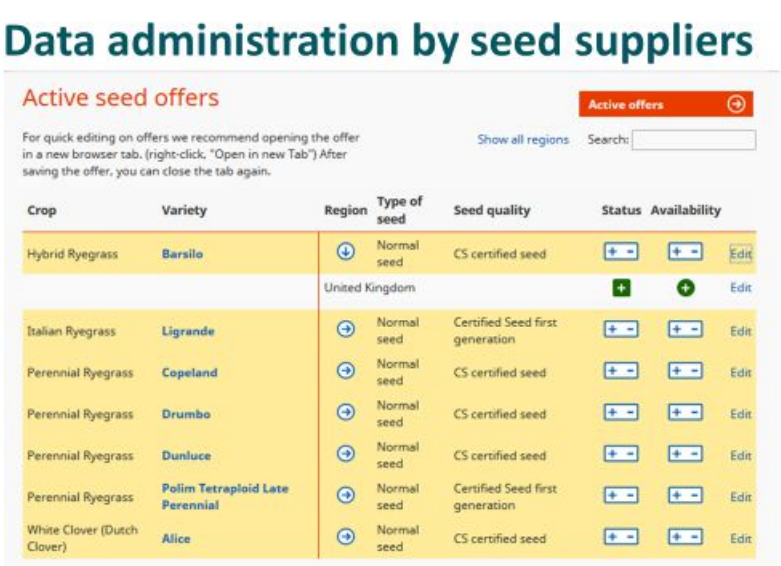
LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.





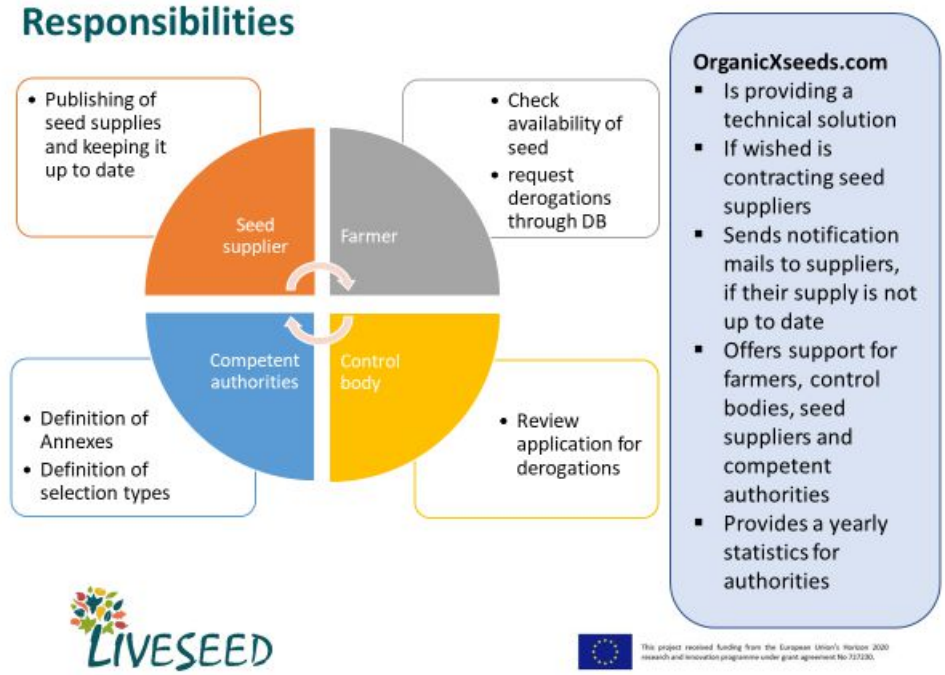
LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

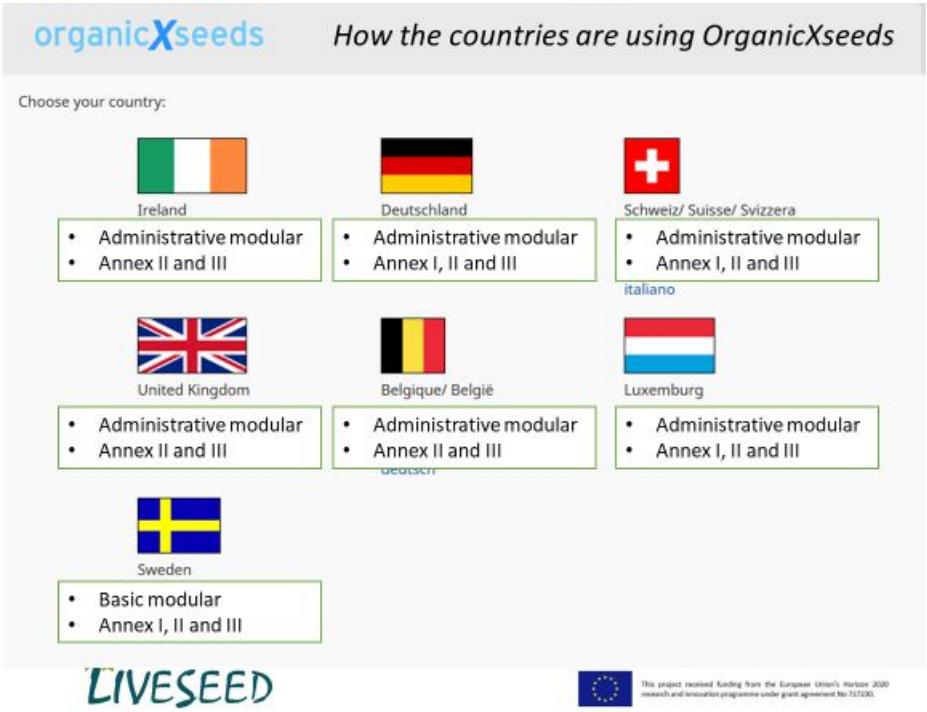




Import of seed supplier data: manual through seed supplier account or through CSV data import

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.





LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

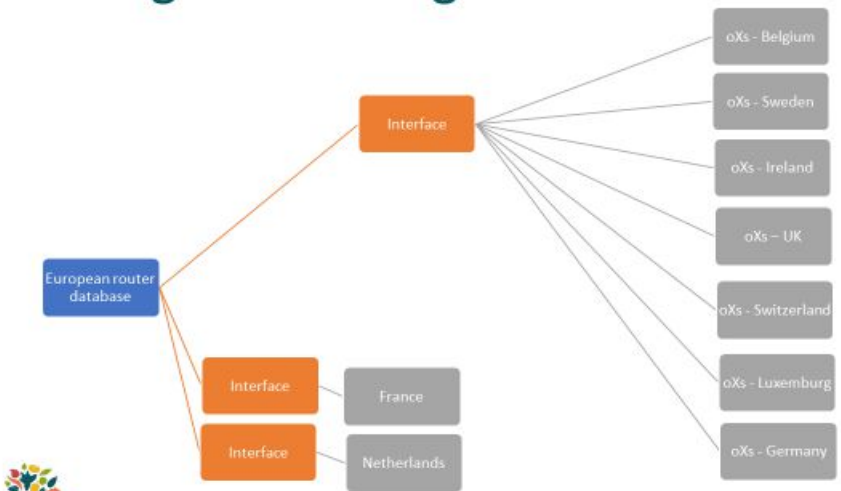
European router database - linking national organic databases

Objectives of router database:

- Increase transparency of the organic seed market
- Increase the use of organic seed
- Reduce barriers for organic seed supplier (e.g. for marketing seed to a neighbouring country)
- Develop one solution rather than having several work arounds
- Harmonize implementation of EU Regulation

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

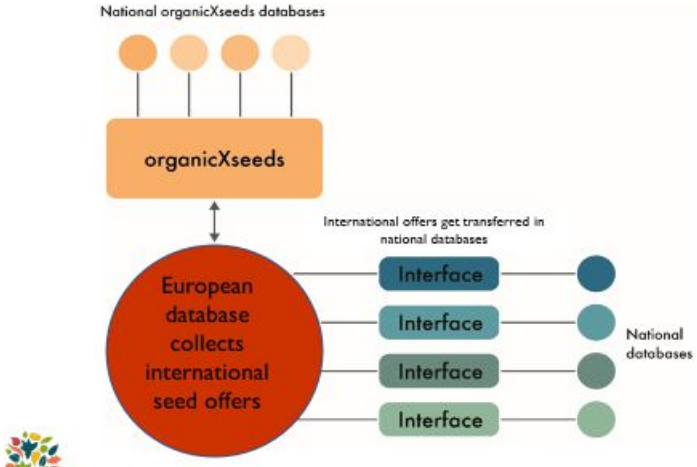
European router database - linking national organic databases



This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.

Aim: European router database - linking seed offers within the EU



LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

Team FiBL DE working in LIVESEED

Freya Schäfer
WP1/Task lead
Contact for national/router database
Seed supplier survey

freya.schaefer@fibl.org
+49 69 713769983

Xenia Gatzert
Admin of national databases
Technical support
Implementation process

xenia.gatzert@fibl.org
+49 69 713769962

Rolf Mäder
Interface management
Technical support
Implementation process

rolf.maeder@fibl.og
+49 69 713769971

LIVESEED

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230.

LIVESEED is funded by the European Union's Horizon 2020 under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090.