# D2.6 - Promotion of Smart Practices

(Success stories, expert interviews, Practice Abstracts, as well as videos made available on LIVESEED website and/or the Organic Farm-knowledge Platform)

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## Document Versions

| Version | Date | Contributor | Summary of Changes |
|---|---|---|---|
| 1.0 | 5 May 2021 | Livia Ortolani, MP Androni, Matteo Petitti | First draft |
| 2.0 | 26 May 2021 | Livia Ortolani, Matteo Petitti | First complete version |
| 3.0 | 31 May 2021 | Livia Ortolani, Matteo Petitti | Final |

# Table of Content



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. Summary

LIVESEED aims to identify, develop and promote smart practices and teaching materials on organic seed multiplication and production. It places a strong focus on improving practitioners' access to existing technical information and to make it available online in different languages.

Two main channels have been identified in order to make available smart practices for a wider public:

- The project website www.liveseed.eu
- The Organic Farm Knowledge Platform, where a specific section on seeds and breeding has been developed within the LIVESEED project activities (within the section on crop production).

Main end users targeted are seed companies, seed multipliers, farmers and advisors concerned by organic seed issues, as well as trainers that will organise courses on organic seed production in their countries. Different kinds of crops are taken into consideration together with different issues from maintenance to multiplication, cleaning and storage aspects.

In order to publish relevant materials for the target audience on the Organic Farm Knowledge platform three main activities were performed within the LIVESEED project:

1. Collecting existing technical materials from LIVESEED partners
2. Developing videos of expert interviews and demonstrations of good practices
3. Developing information materials on success stories based on the LIVESEED cross visits and on national visits, including both Practice Abstracts and Success stories.

This deliverable will present the materials uploaded on the LIVESEED website and on the Organic Farm Knowledge platform.

# 2. Smart Practices on the LIVESEED project website

The LIVESEED project website (www.liveseed.eu) has a specific session for "Tools for Practitioners" in which several tools focus on smart practices.

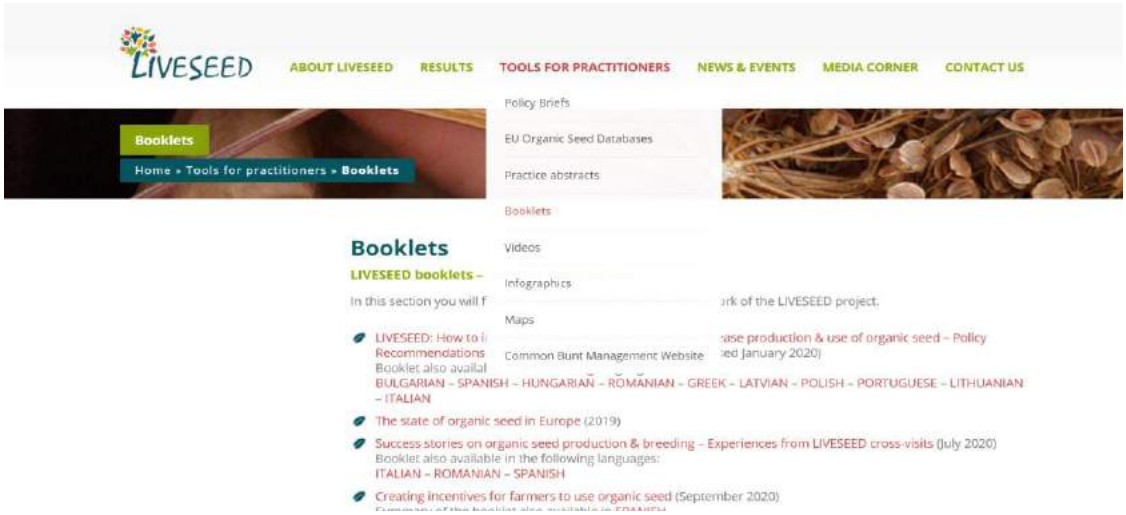


*Figure 1 - Screenshot of LIVESEED website's section on "Tools for practitioners"*

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The section includes different types of documents: Policy briefs, Booklets, Practice Abstracts, Videos, Maps and Infographics. Detailed screenshots on those sections can be found in sections 4, 5, 6 and 7.

In order to improve the promotion of smart practices, part of those documents have been selected to be uploaded in the Organic Farm Knowledge Platform and to be described within this deliverable.

# 3. Development of the seed section on the Organic Farm Knowledge Platform

The LIVESEED project was responsible for developing a new section on the Organic Farm Knowledge Platform in order to facilitate the access to materials related to Organic seeds to the platform users.


*Figure 2 - Screenshot of the Organic Knowledge Platform structure with the new section on Seeds and Breeding within the section on Crop Production*

The process followed several steps, starting in 2019:

- Identification of 4 sub-themes for the seed section in order to cluster the collected materials
- Identification of Agrovoc keywords relevant for seed issues
- Developing the form for the tool descriptions
- Developing the process to guarantee the quality of the material uploaded

## 3.1 Identification of the 4 sub-themes

In order to facilitate end users in the identification of tools relevant for their specific interests, four sub-themes have been identified for the seed section of the knowledge platform. Here we report the 4 sub-themes with their description.

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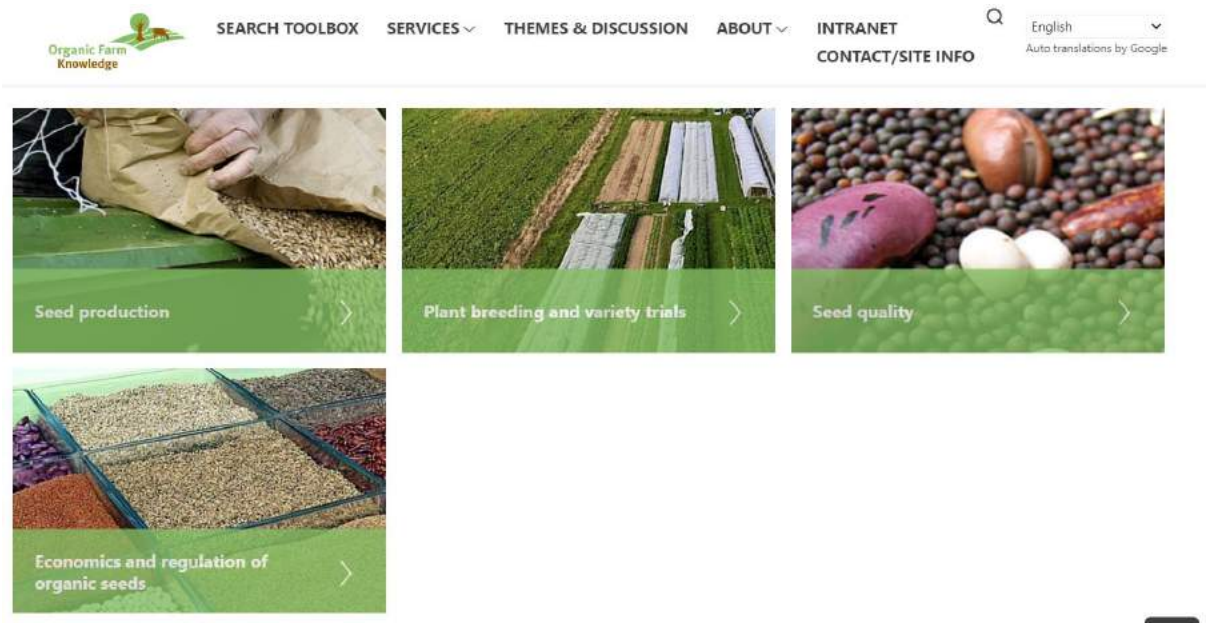


*Figure 3 - Screenshot of the 4 sub-themes of the Seeds and Breeding section of Organic Farm Knowledge Platform*

### 3.1.1. SEED PRODUCTION

Seed production is a very specialised sector which requires a unique skillset. Producing organic seeds poses specific challenges to the seed grower: seed crops have a much longer cycle than regular crops and are thus more susceptible to pests, diseases and abiotic stress. The production of organic seeds has not only the goal to meet regulatory requirements, but also to improve the performance of the organic sector through a broad offer of quality seed of varieties, which are best suited to the specific conditions of organic farming.

Organically produced seeds that meet the organic values and standards contribute to the ongoing growth of organic farming systems, while supporting agrobiodiversity and the development of healthy ecosystems.

On this page, tools and resources are listed that help improve farmers' knowledge on organic seed production throughout the whole cycle: from seed multiplication for different crops to seed cleaning, processing and storage.

### 3.1.2. PLANT BREEDING AND VARIETIES TRIALS

The vast majority of seeds used in organic production in Europe is based on varieties that were bred for the conventional sector. There are only few varieties that were specifically bred for organic and low-input systems in developed countries. Organic breeding leads to new organic cultivars or populations specifically adapted to organic agriculture. Organic farmers need cultivars and populations that are well adapted to their specific agro-ecological conditions. Desired traits include water and nutrient use efficiency, good weed competition as well as resistance to pests and diseases. Novel breeding concepts and strategies adapted to organic and low-input farming are needed to address the demand for organic seeds.

On this page, information is presented on breeding programmes developed specifically for organic farming, prioritizing different traits required under organic and low-input systems. Farmers will also find here lists of varieties developed in different countries as well as information on novel breeding and screening tools and on holistic breeding concepts.

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### 3.1.3. SEED QUALITY

Organic seed multiplication requires time and specific skills to produce high quality, healthy seed. Without chemical inputs and seed treatment, organic seed health and quality start in the field through an integrated approach taking into account the whole ecosystem: soil, pathogens, genetics and seed microbiome. After the harvest, seed cleaning and selection are fundamental to choose the best quality seed with the highest germination rate and vigour. Seed testing is required.

On this page, we enlisted tools and resources that help monitor and improve the quality and health of organic seeds, including available organic treatments for seed borne pests and diseases.

### 3.1.4. ECONOMICS AND REGULATIONS OF ORGANIC SEEDS

The current European seed marketing regulatory framework represents a major bottleneck for the development and the registration of organic cultivars. The new EU organic regulation, introducing organic varieties and organic heterogeneous material, shall propose adapted rules and protocols for registration.

The economics of seed production and marketing are quite different in an organic regime compared to conventional. Lower yields and higher risks of crop failure require appropriate business models to ensure fair prices to seed-producing farmers. Similarly, financing organic plant breeding requires innovative approaches, encompassing the smaller seed market share and the higher number of varieties needed in the sector.

On this page, information and updates on the economics and regulations connected to organic seeds are collected, including contracting process and certification of organic seeds as well as information on availability of organic seeds on the market and other market issues.

## 3.2 Identification of Agrovoc keywords relevant for seed issues

**AGROVOC** is the largest Linked Open Data set about agriculture available for public use and facilitates access and visibility of data across domains and languages. It offers a structured collection of agricultural concepts, terms, definitions and relationships which are used to unambiguously identify resources, allowing standardized indexing processes and making searches more efficient.

**AGROVOC** uses semantic web technologies, linking to other multilingual knowledge organization systems and building bridges between datasets.

This source was used to identify keywords for each sub-themes that allow the materials uploaded on the knowledge platform to be automatically assigned to each subtheme.

A first set of agrovoc keywords was proposed and among that, FiBl, who is the editor of the Organic Farm Knowledge Platform, selected the following final keywords. Keywords selected by FiBl are listed in Table 1.

**First keywords proposed by Rete Semi Rurali:**

A - **Organic Seed Production, Seed Cleaning, processing and storage**

seeds, seed production, propagation material, seed crops, hybrid seed production, genetic diversity (as resource), seed storage life, seed storage, seed cleaning, seed cleaners, postharvest equipment, germplasm

Organic E-prints: production systems, crop husbandry,

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B - **Seed quality and health under organic management**

seed quality, germinability, seed longevity, seed treatment, biological disease control, disease prevention, genetic control,

Organic E-prints: Crop health, quality, protection; postharvest management and techniques

C **– Organic Plant Breeding and variety trials**

seeds, plant breeding, breeding methods, breeders' seeds, seed mixtures, seed characteristics, seed testing, selection criteria, breeding lines, genotypes, crop improvement, genomic features, genetic markers, genetic resources, germplasm, genetic resistance, varieties,

Organic E-prints: breeding, genetics, and propagation

D – **Economics and Regulation of organic seeds** (including contracting, certification and market issues)

seeds, certified seeds, seed certification, registration, seed industry, gene banks, community seed bank,

Organic E-prints: food systems, Policy environments and social economy, Market and trade, Networks and ownership, Values, standards and certification, Regulation

*Table 1 - Final list of keywords selected by FiBl for the Organic Farm Knowledge Platform*

| Section | Themes | Keywords |
|---|---|---|
| Seeds and Breeding | | Seeds |
| | Seed production | Seed production; Seed characteristics; Seed treatment |
| | Seed quality | Seed quality; Seed storage; Genetic control; Germinability |
| | Plant breeding and variety trials | Seed testing; Plant breeding; Selection criteria; Varieties; Genetic diversity (as resource); Genetic markers; Genetic resistance; Genetic resources; Genotypes; Germplasm; Breeding methods |
| | Economics and regulation of organic seeds | Seed certification; Seed industry; Gene banks |

## 3.3 Developing the form for the seed tool description

Starting from the existing form for tool description of the Organic Farm Knowledge Platform, in 2019 RSR adapted it to the needs of the tools collected and developed by the LIVESEED project.

In April 2021, FiBL-CH developed a new tool description form common to all sections of the knowledge platform as the whole platform was re-organized.

Original and new tool description forms can be found in Annex I of this document.

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## 3.4 Developing the process to guarantee the quality of the material uploaded

The figure 4 below presents the process that was followed in order to decide if one specific material was suitable for the Organic Farm Knowledge Platform or not.

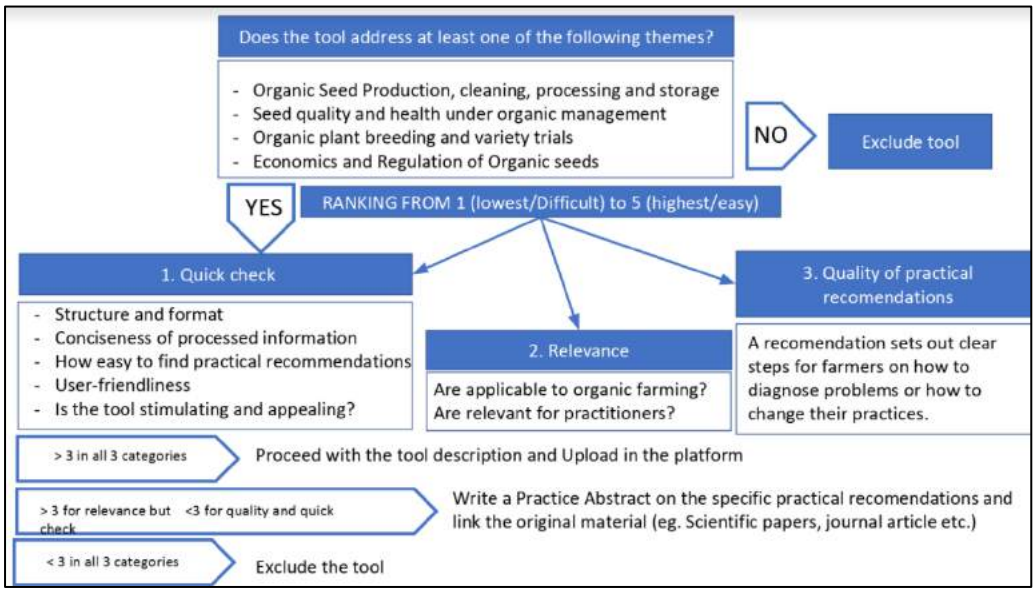


*Figure 4 - The process to select tools to be uploaded on the Organic Farm Knowledge Platform*

# 4. Technical material collected from LIVESEED partners

The 2.2.2 subtask of the LIVESEED projects focused on the collection of existing technical material on seeds already available in Europe, including national languages materials.

The process was carried out in the following steps:

- Survey with all LIVESEED partners in order to ask if they are aware of relevant materials in their language on seed production, quality, breeding etc.
- All partners that in the survey said to have available material were directly contacted by Rete Semi Rurali with a specific online call, using Skype, in order to further discuss the material, they want to propose and identify if it was suitable or not for the target audience of the project.
- The tools that resulted to be valid were sent to Rete Semi Rurali.
- Rete Semi Rurali filled in the tool description for each tool and uploaded them on Organic E-print database, which allow to make them visible on the Organic Farm Knowledge Platform

Table 2 (next page) presents the final list of the tools that were selected and make available online:

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*Table 2 – list of existing materials collected from LIVESEED partners and suitable for the Organic Farm Knowledge Platform*

| N. | Title | Partner | Language |
|---|---|---|---|
| 1 | Tools to integrate organoleptic quality criteria into breeding programs | ITAB | French |
| 2 | SortInfo | SEGES | English/Danish |
| 3 | Producing alfalfa seeds for organic agriculture | ITAB | French |
| 4 | Producing zucchini seeds for organic agriculture | ITAB | French |
| 5 | Innovative techniques for seed treatments compatible with organic farming | ITAB | French |
| 6 | Producing red clover seeds for organic agriculture | ITAB | French |
| 7 | Producing cabbage seeds for organic agriculture | ITAB | French |
| 8 | Producing carrot seeds for organic agriculture | ITAB | French |
| 9 | Producing cereal seeds for organic agriculture | ITAB | French |
| 10 | Managing common bunt | ITAB | French |
| 11 | Producing forage crop seeds for organic agriculture: evolving techniques | ITAB | French |
| 12 | Producing lettuce seeds for organic agriculture | ITAB | French |
| 13 | Variétés des céréales en agriculture biologique - mémento blé tendre d'hiver 2019 | ITAB | French |
| 14 | Concerning Brassica vegetables ... | ITAB | French |
| 15 | Ancestral wheat | AEGILOPS | Greek |
| 16 | Our heritage vegetables | AEGILOPS | Greek |
| 17 | Agricultural biodiversity: Meaning and role for the producer | AEGILOPS | Greek |
| 18 | Resistant varieties for fruit growers - Malidae group | OMKI | Hungarian |
| 19 | Pepper (Capsicum annum L.) | RSR | Italian |
| 20 | Aubergine (Solanum melogena L.) | RSR | Italian |
| 21 | The main diseases of Solanaceae transmitted by seeds | RSR | Italian |
| 22 | Solanaceae | RSR | Italian |
| 23 | Potato (Solanum tuberosum L.) | RSR | Italian |
| 24 | Tomato (Lycopersicon esculentum Mill.) | RSR | Italian |
| 25 | Grain Pea in Organic Farming | CREA | Italian |
| 26 | Producing onion seeds for organic agriculture | ITAB | French |
| 27 | Functional compounds of einkorn and emmer genotypes | ATK | English |
| 28 | Comparison of bread wheat varieties with different breeding origin under organic and low input management | ATK | English |
| 29 | The identification of wheat genetic resources with high dietary fiber content | ATK | English |
| 30 | Diversity and Participatory Research for Organic Agriculture | INRA | English |
| 31 | Effect of Organic Cultivation in Landrace of Pepper | UNIVAL | English |
| 32 | Methods and tools for decentralized breeding | ITAB | English |
| 33 | A guide to participatory experimentation with underutilized generic resources | ITAB | English |
| 34 | Toolkit to foster multi actor research on agrobiodiversity | ITAB | English |

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More practice tools have been collected by Rete Semi Rurali that have not yet included on the platform, but will be uploaded at a later stage.

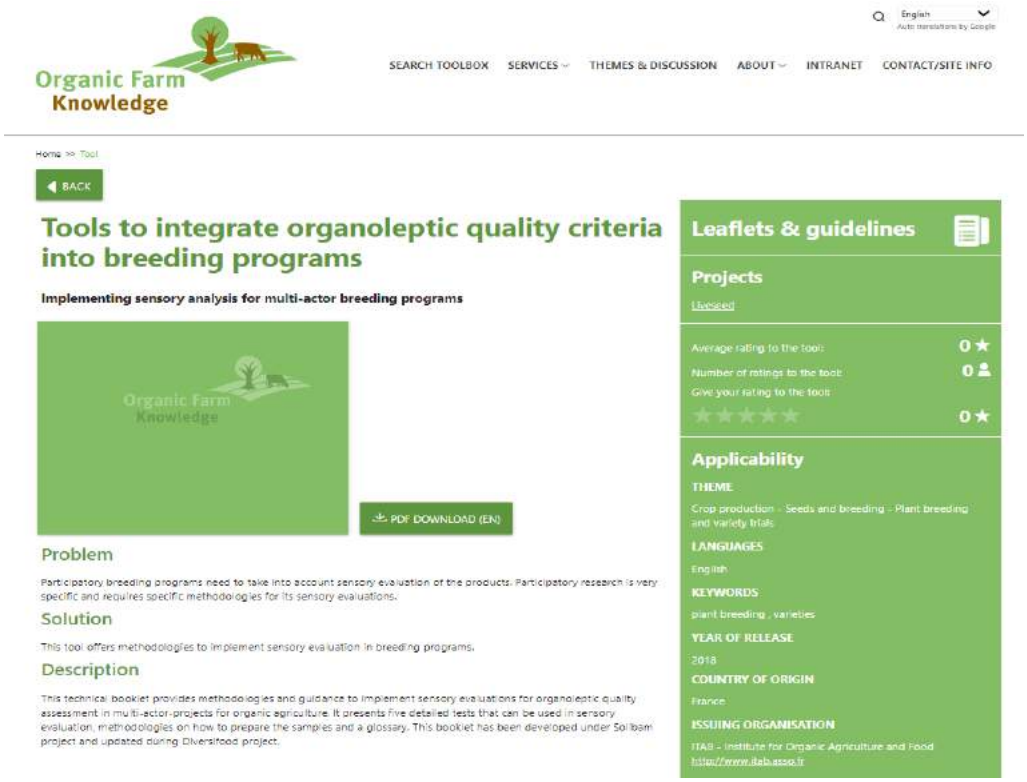


*Figure 5 - Screenshot of tool 1 on OFK Platform*

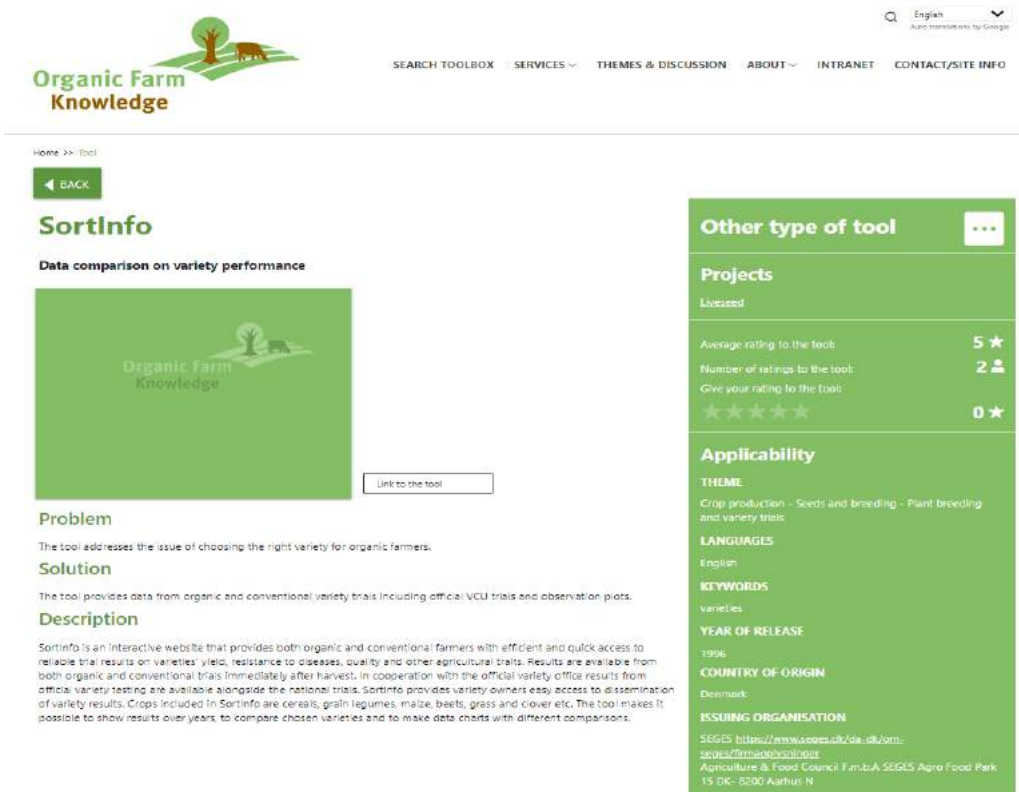


*Figure 6 - Screenshot of tool 2 on OFK platform*

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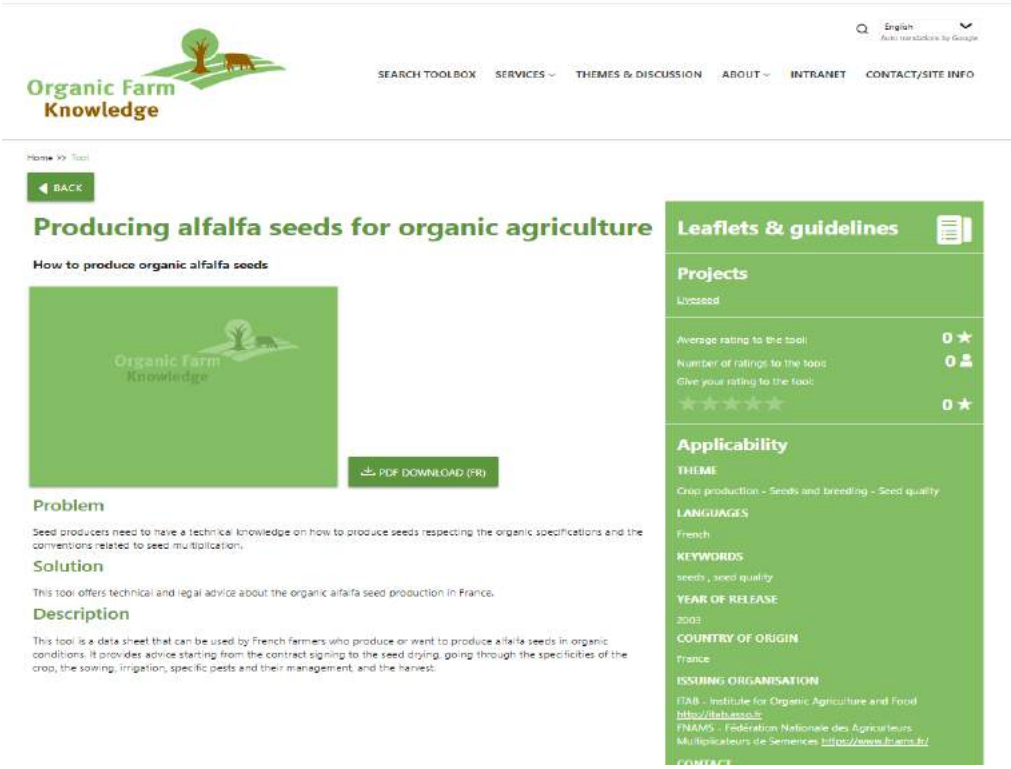


*Figure 7 - Screenshot of tool 3 on OFK platform*

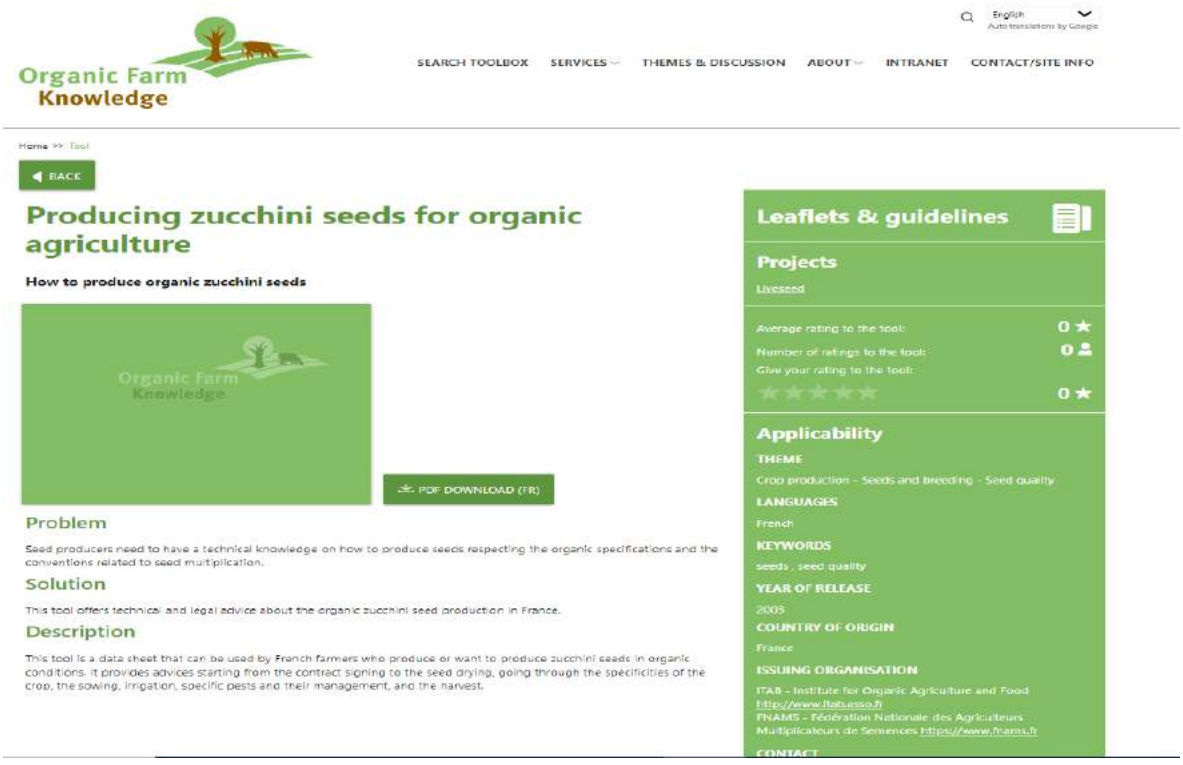


*Figure 8 - Screenshot of tool 4 on OFK platform*

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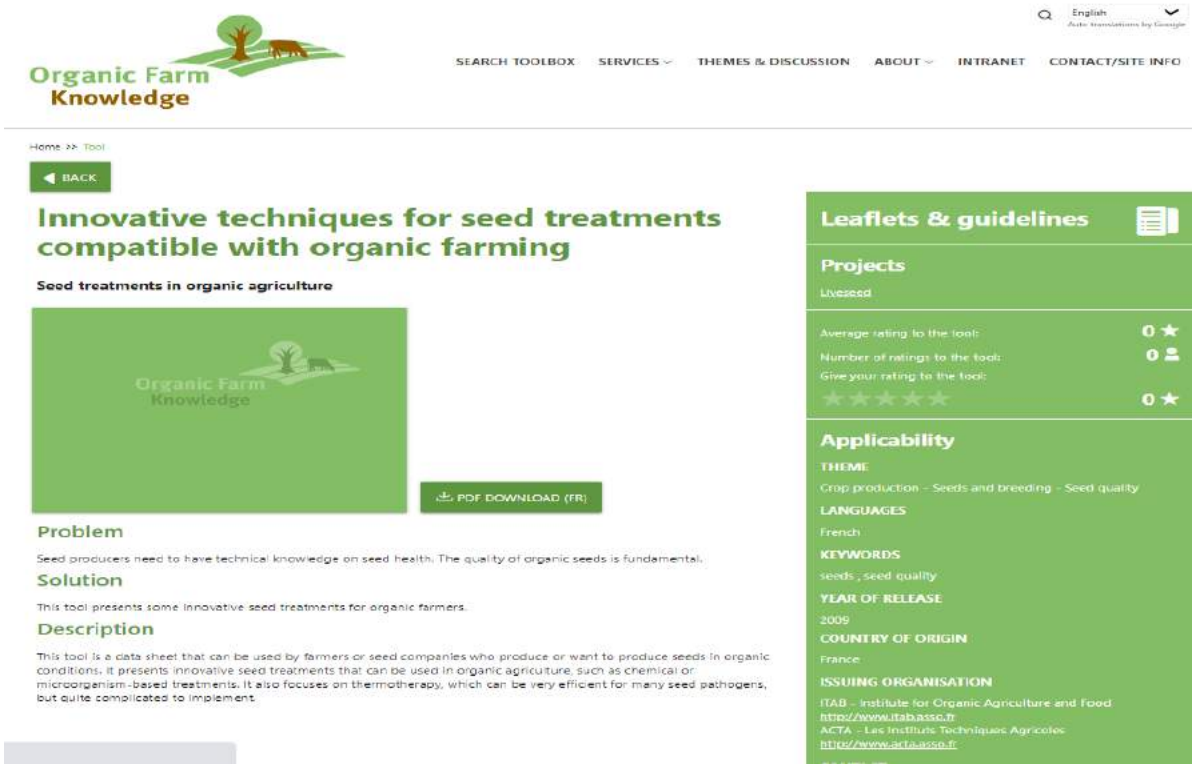


*Figure 9 - Screenshot of tool 5 on OFK platform*

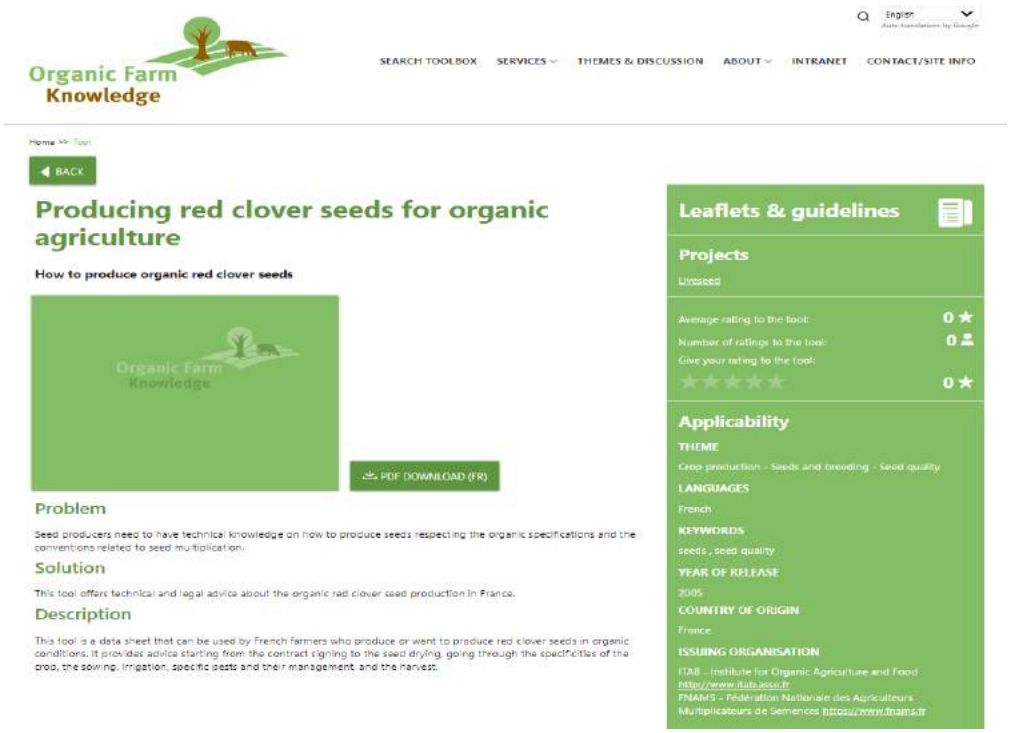


*Figure 10 - Screenshot of tool 6 to OFK platform*

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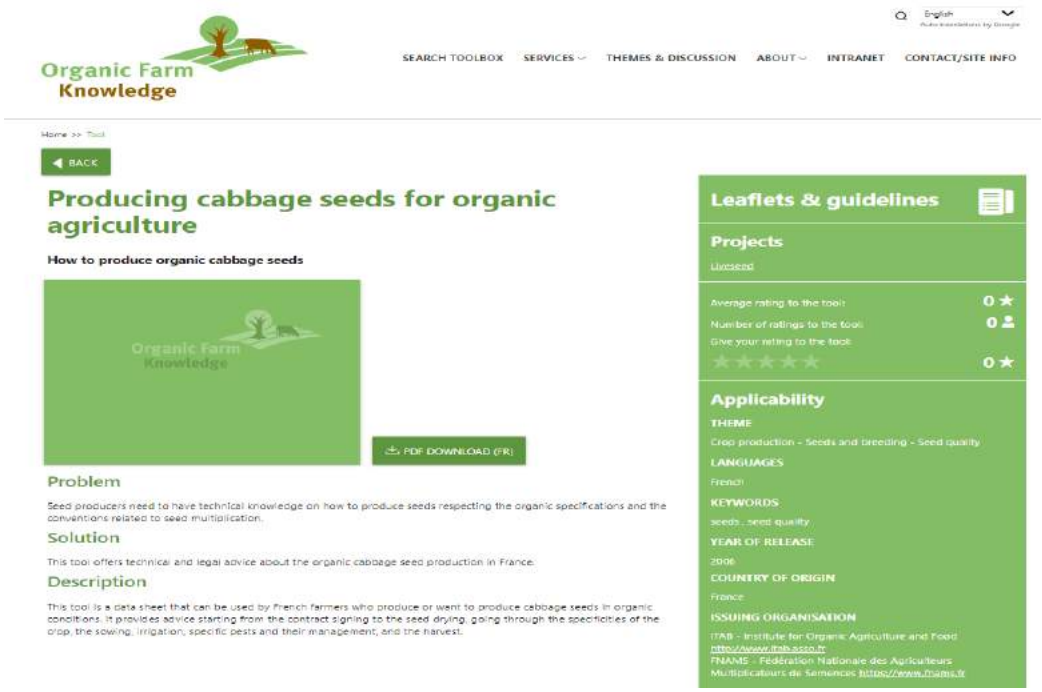


*Figure 11 - Screenshot of tool 7 on OFK platform*

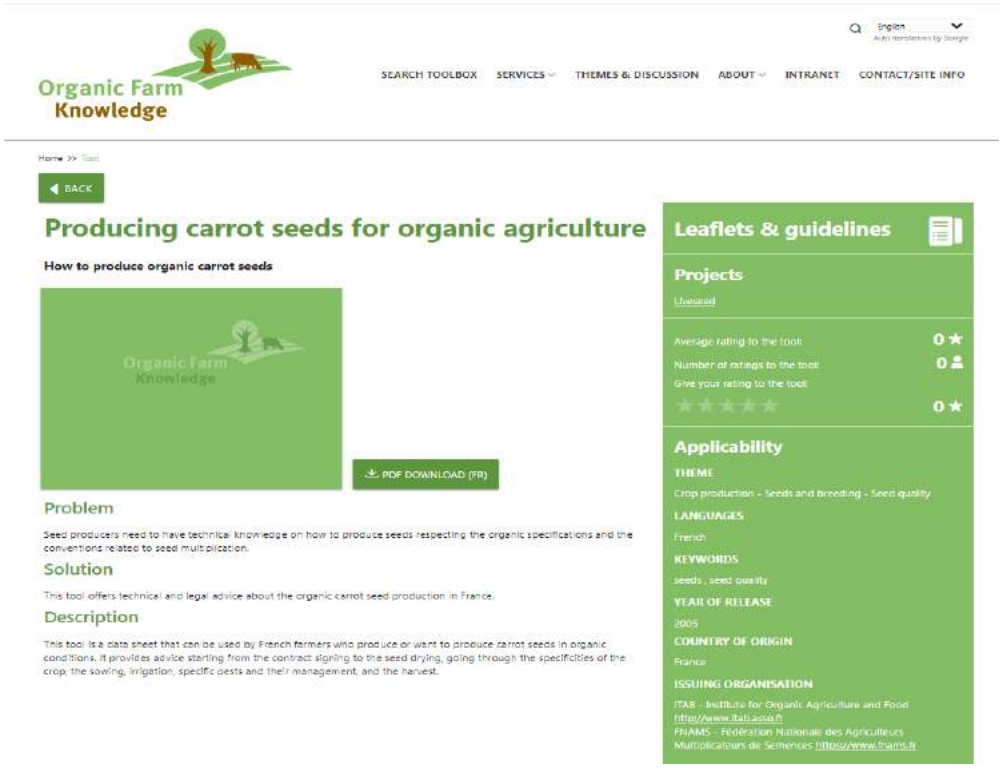


*Figure 12 - Screenshot of tool 8 on OFK platform*

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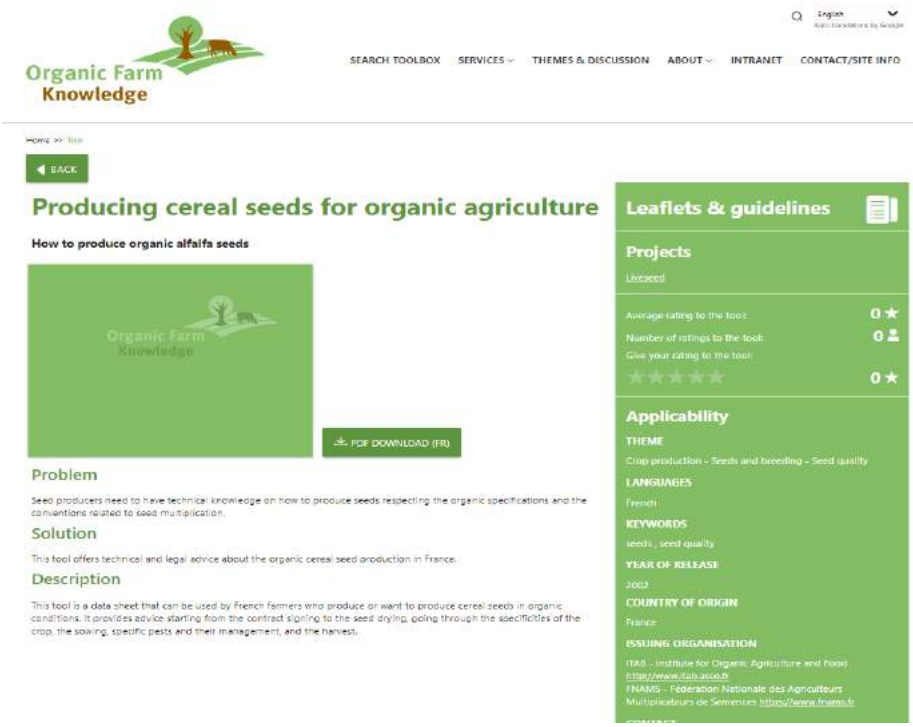


*Figure 13 - Screenshot of tool 9 on OFK platform*

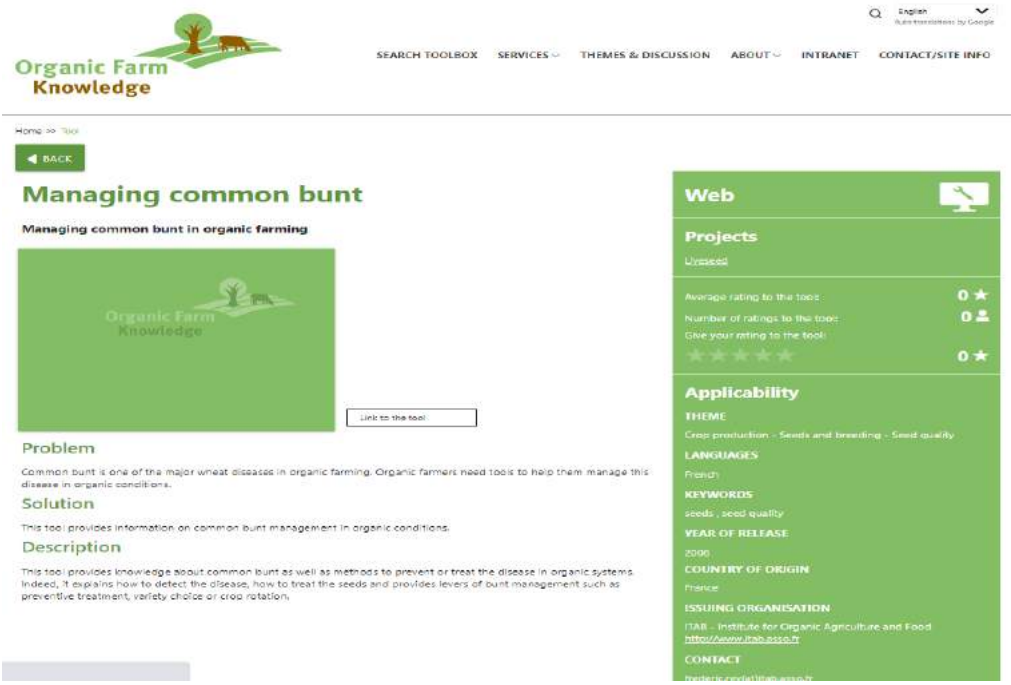


*Figure 14 - Screenshot of tool 10 on OFK platform*

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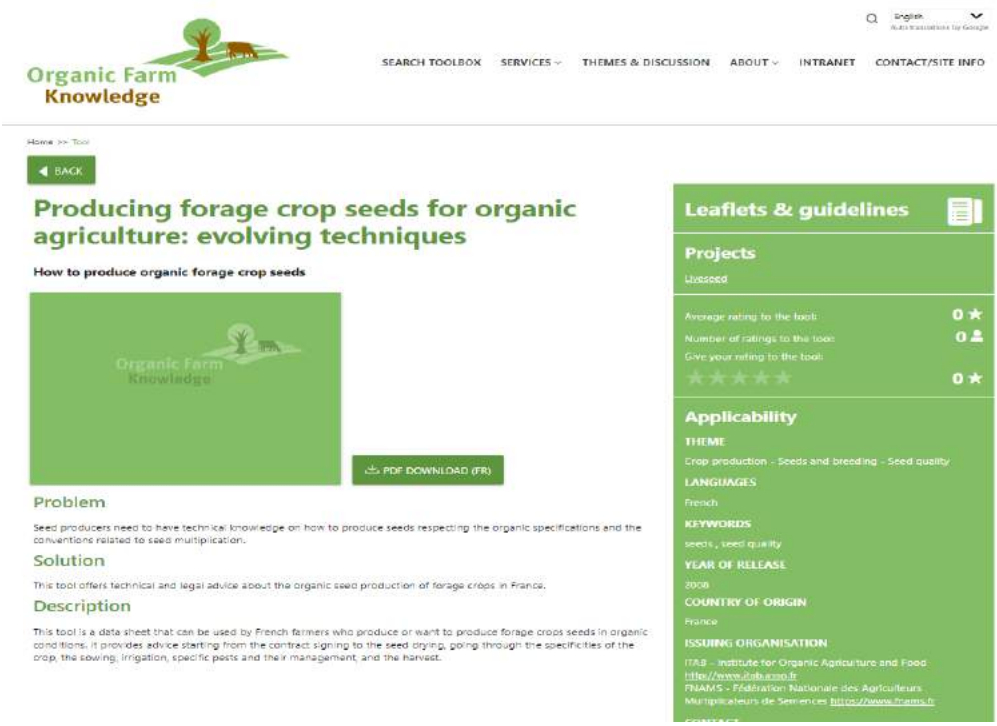


*Figure 15 - Screenshot of tool 11 on OFK platform*

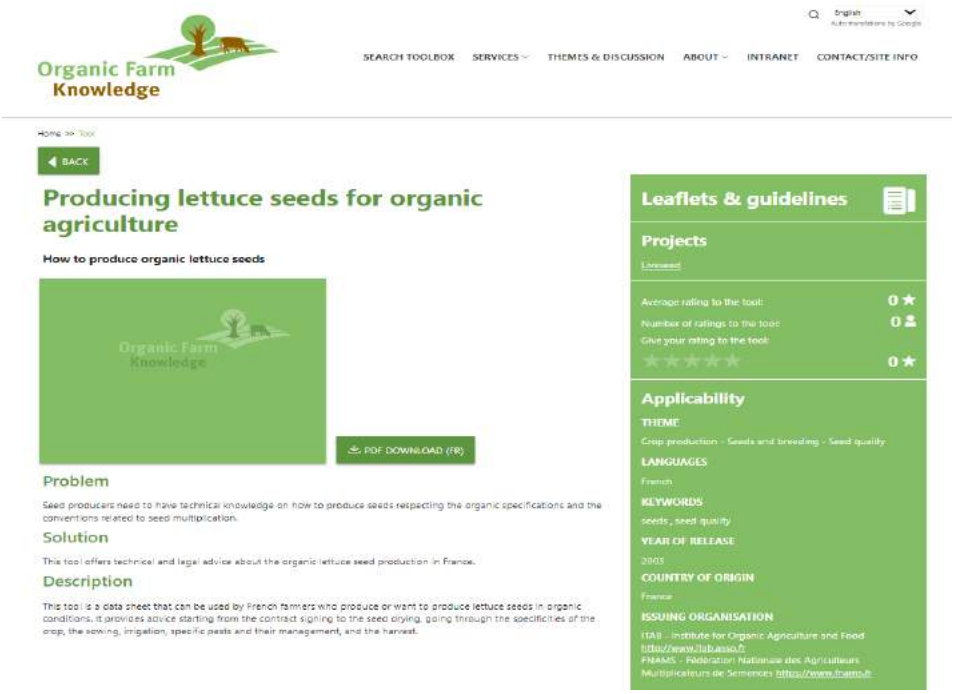


*Figure 16 - Screenshot of tool 12 on OFK platform*

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*Figure 17 - Screenshot of tool 13 on OFK platform*

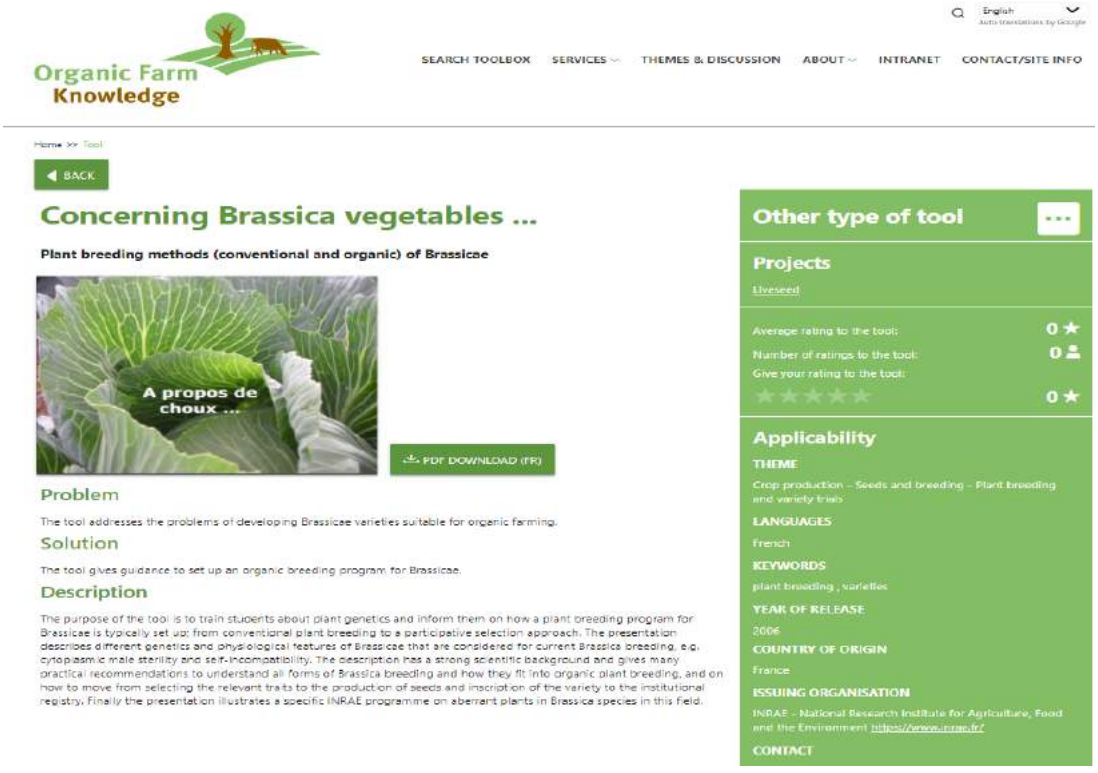


*Figure 18 - Screenshot of tool 14 on OFK platform*

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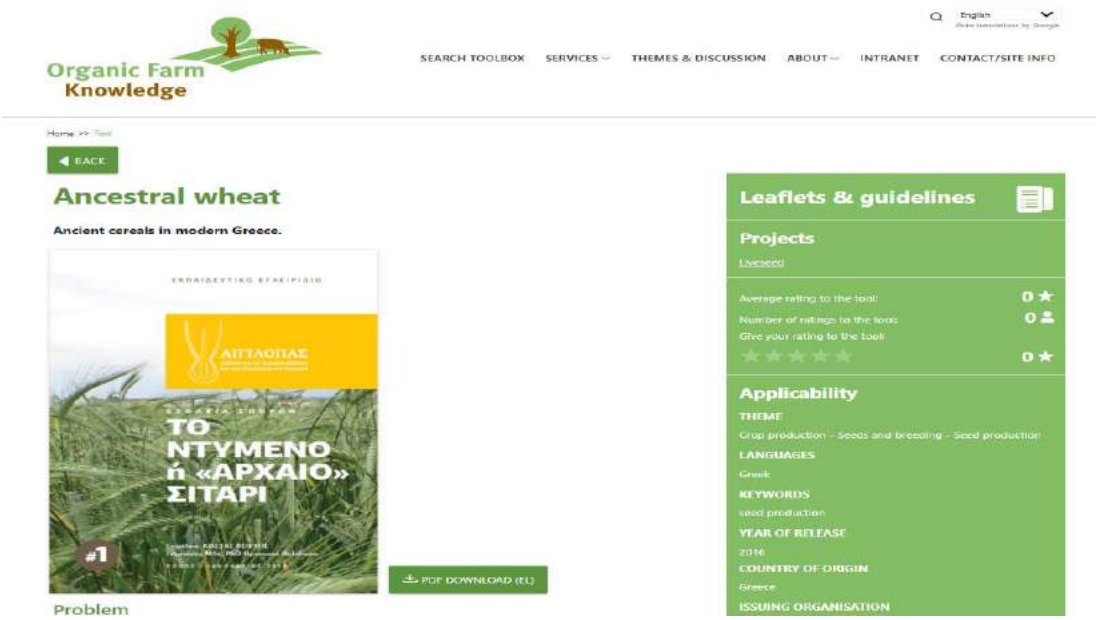


*Figure 19 - Screenshot of tool 15 on OFK platform*

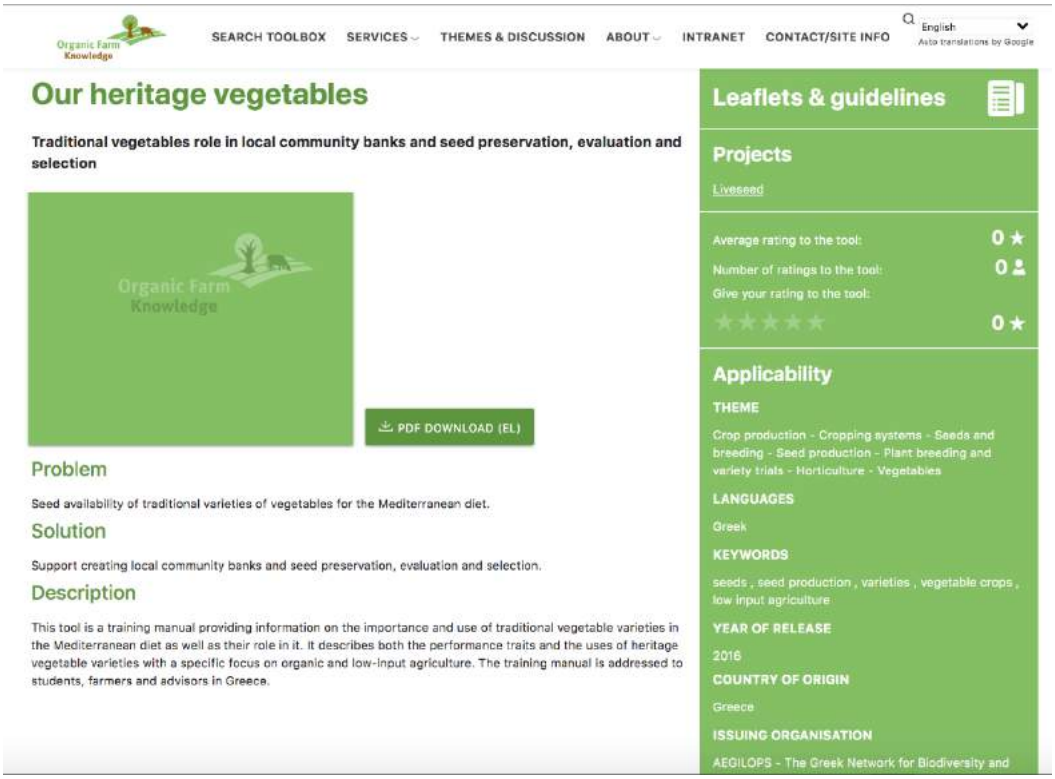


*Figure 20 - Screenshot of tool 16 on OFK platform*

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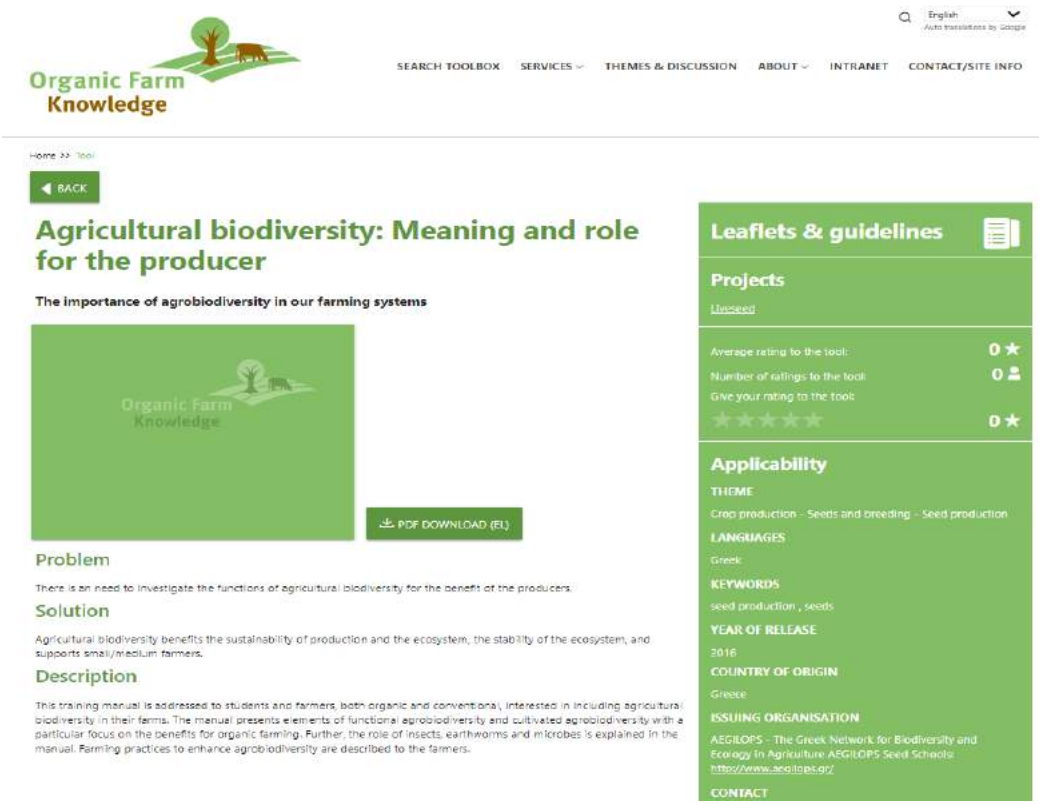


*Figure 21 - Screenshot of tool 17 on OFK platform*

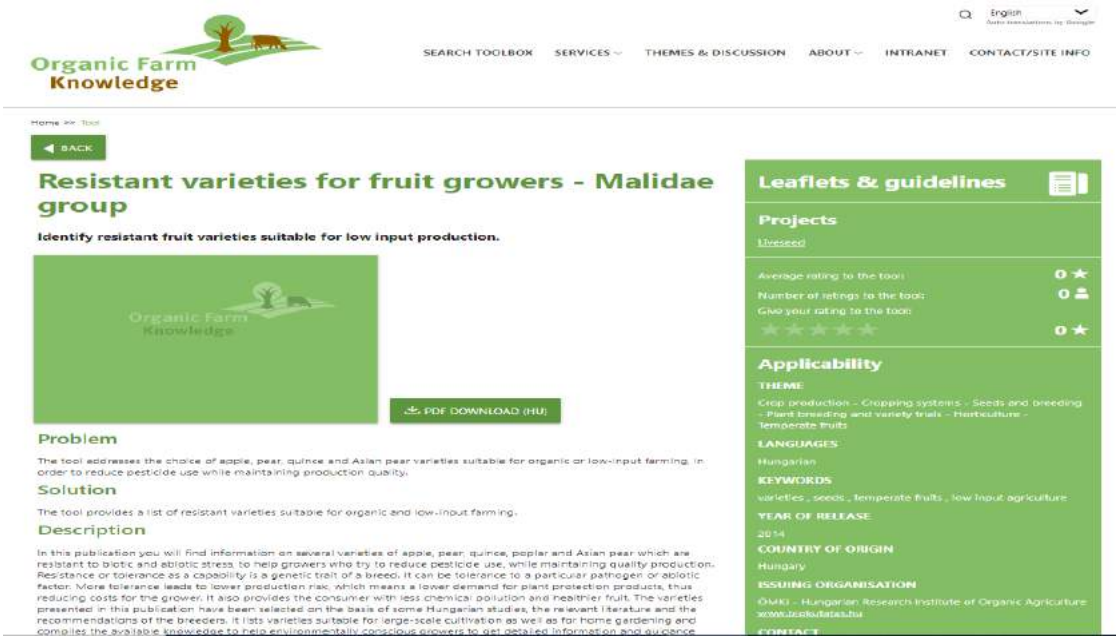


*Figure 22 - Screenshot of tool 18 on OFK platform*

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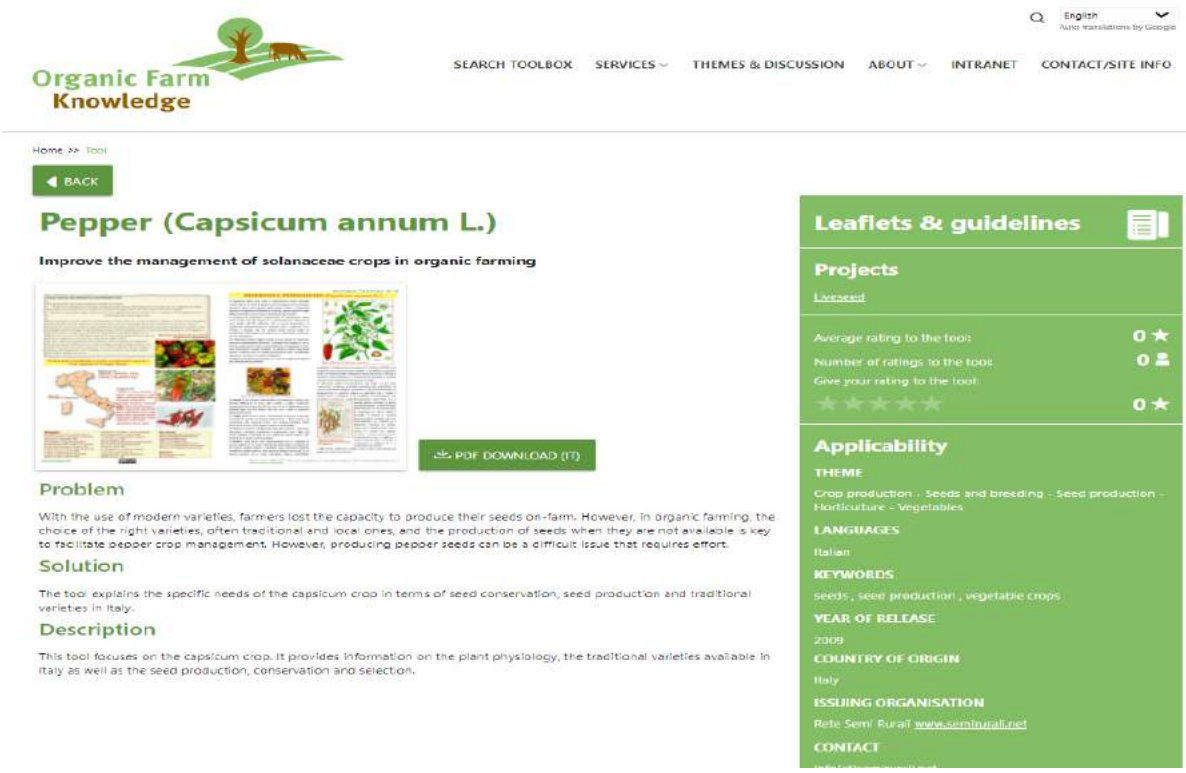


*Figure 23 - Screenshot of tool 19 on OFK platform*


*Figure 24 - Screenshot of tool 20 on OFK platform*

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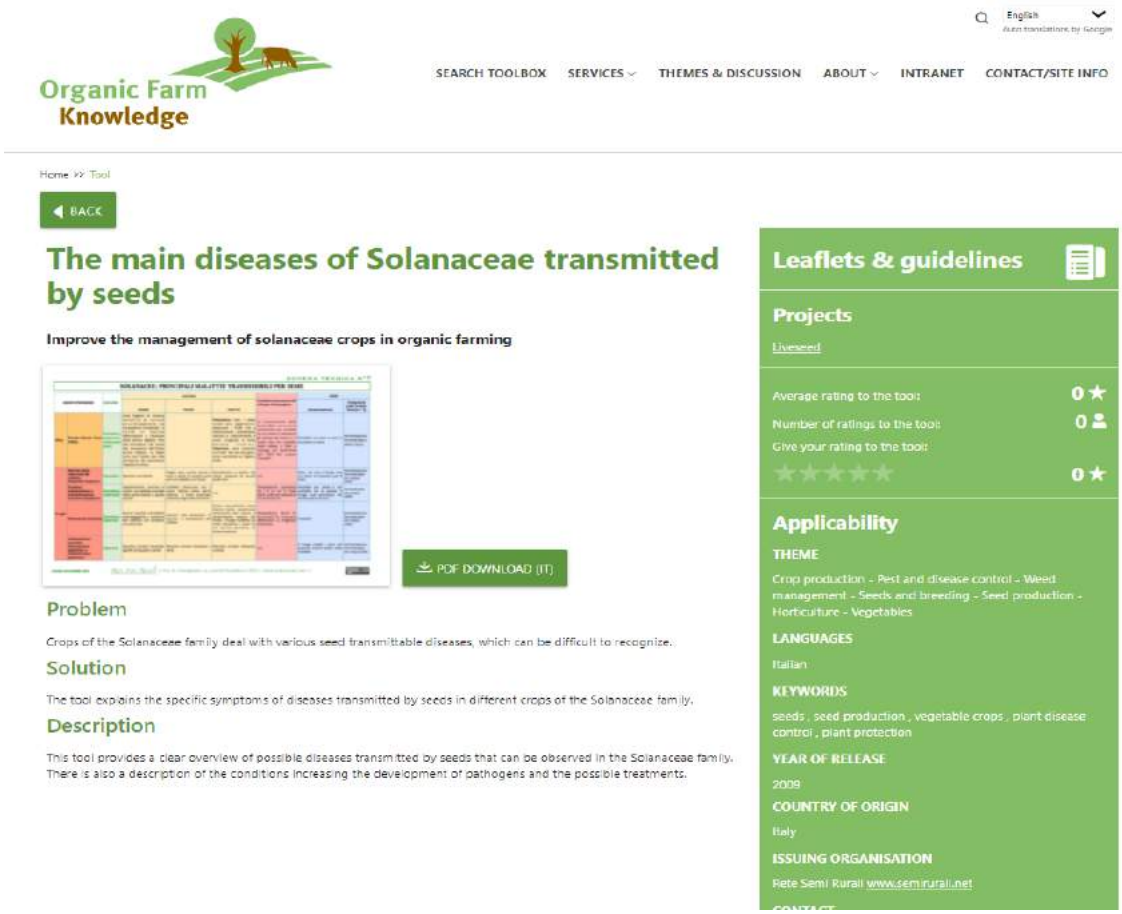


*Figure 25 - Screenshot of tool 21 on OFK platform*

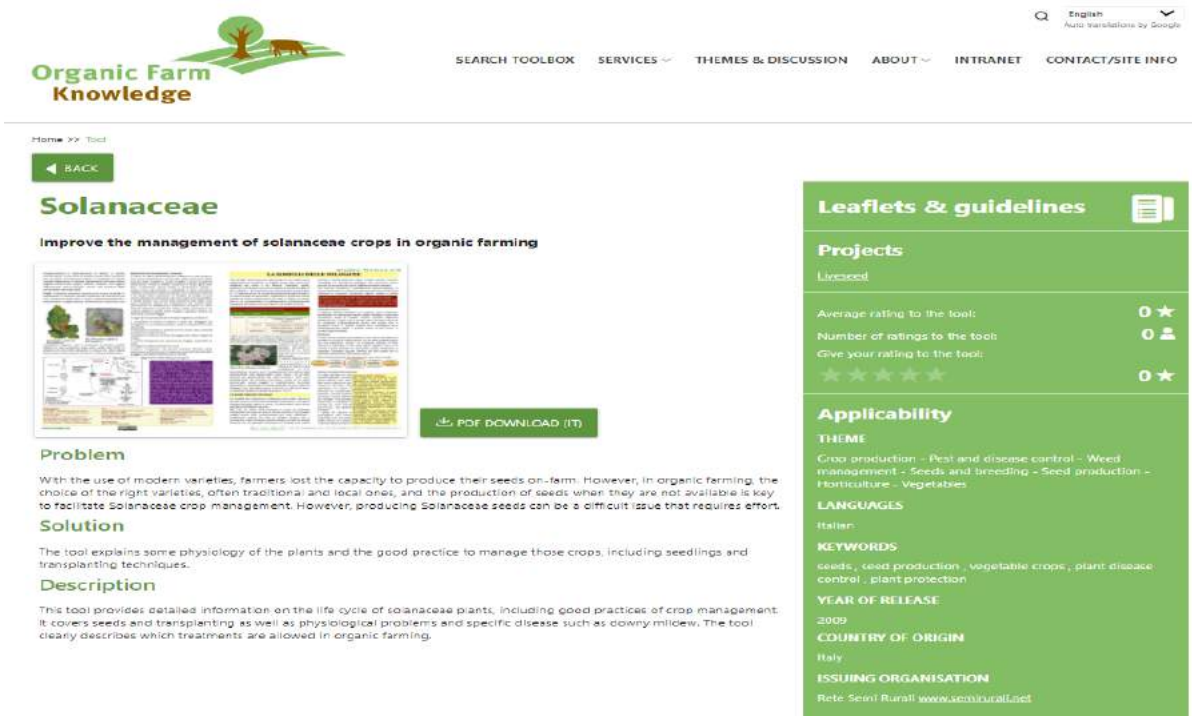


*Figure 26 - Screenshot of tool 22 on OFK platform*

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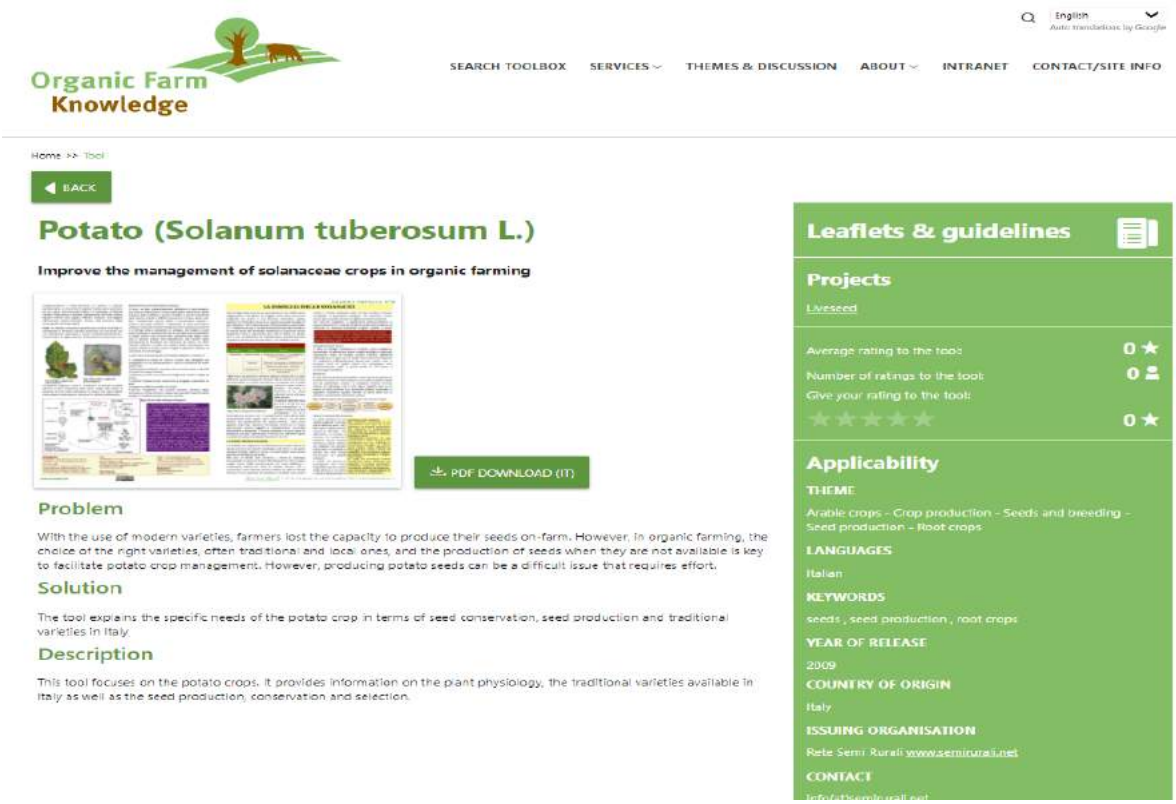


*Figure 27 - Screenshot of tool 23 on OFK platform*


*Figure 28 - Screenshot of tool 24 on OFK platform*

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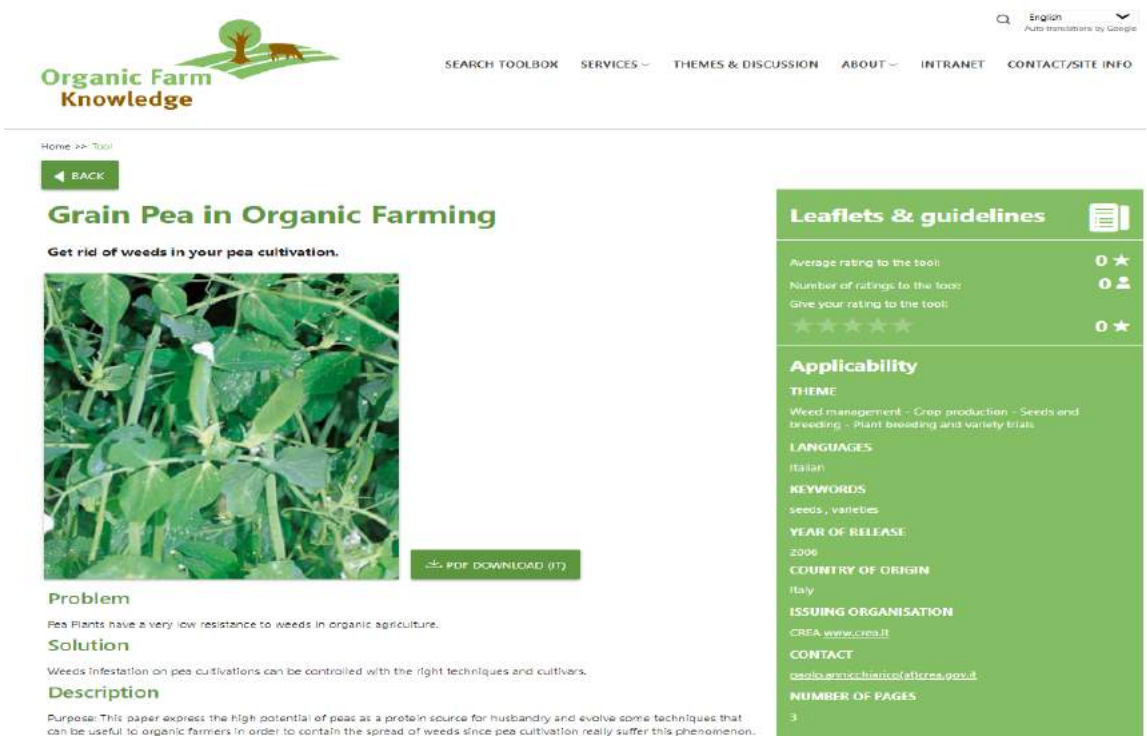


*Figure 29 - Screenshot of tool 25 on OFK platform*

PRODUCING ONION SEEDS

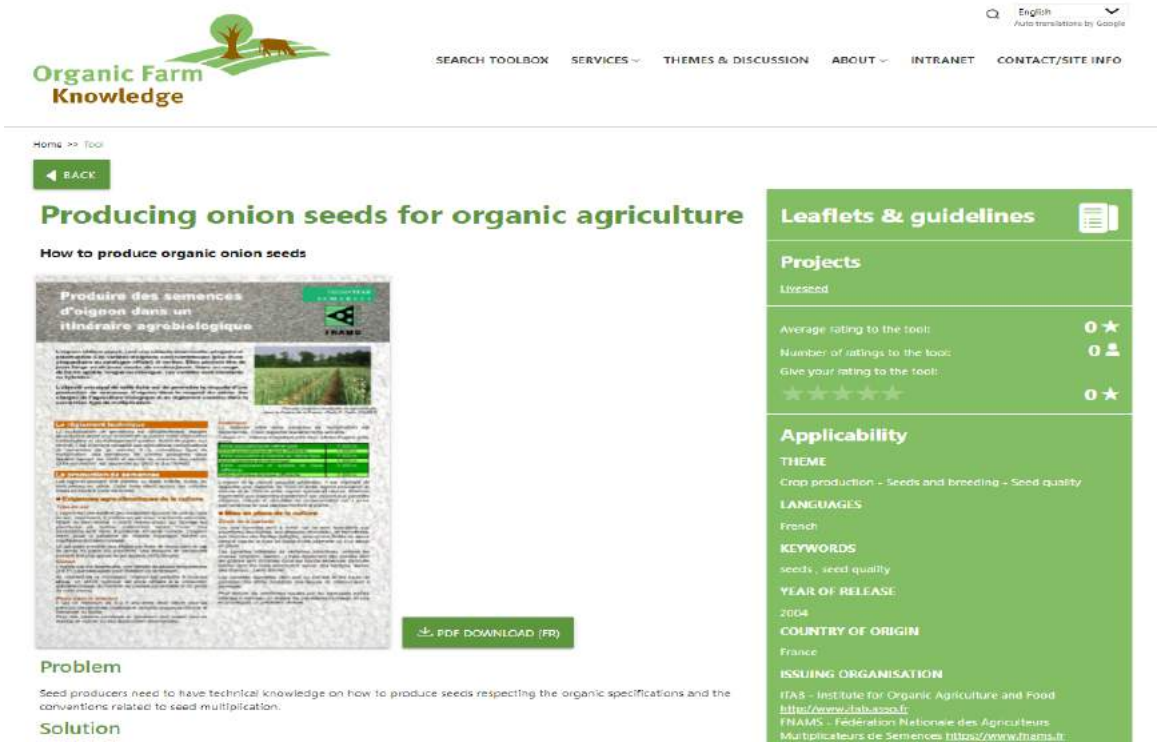


*Figure 30 - Screenshot of tool 26 on OFK platform*

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.

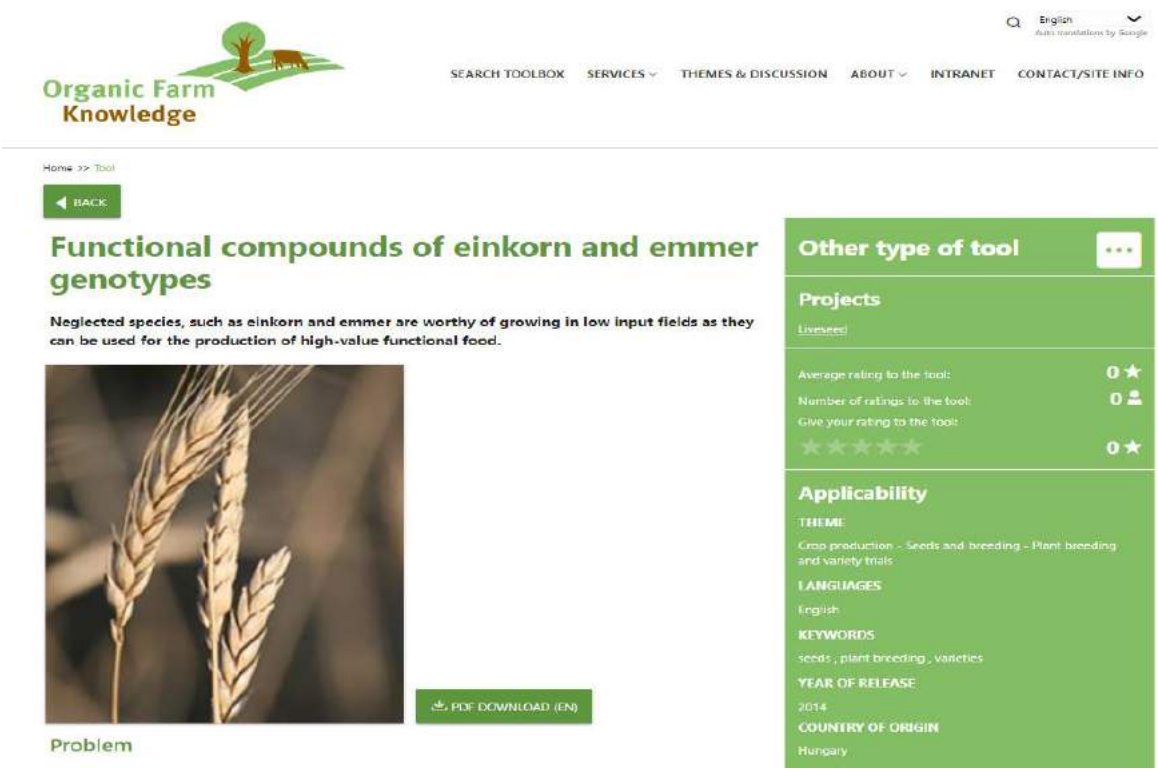


*Figure 31 - Screenshot of tool 27 on OFK platform*


*Figure 32 - Screenshot of tool 28 on OFK platform*

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 33 - Screenshot of tool 29 on OFK platform*

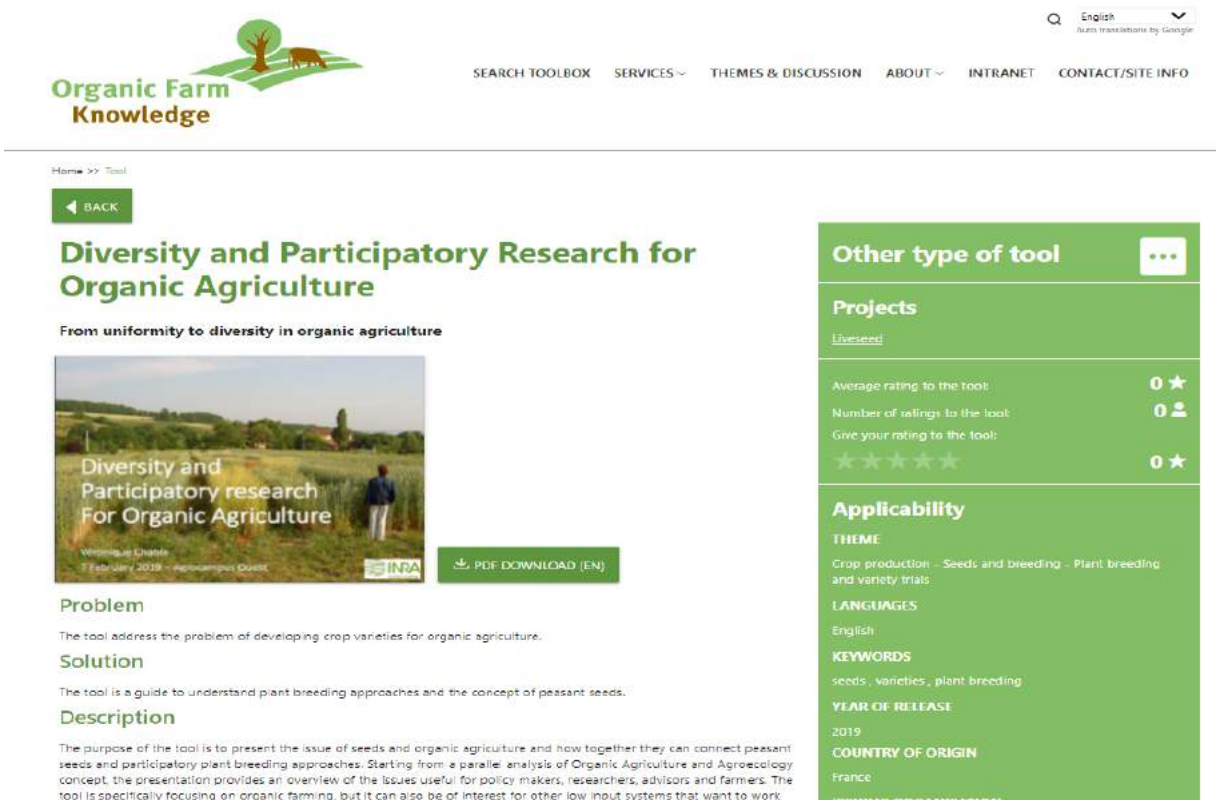


*Figure 34 - Screenshot of tool 30 on OFK platform*

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 35 - Screenshot of tool 31 on OFK platform*

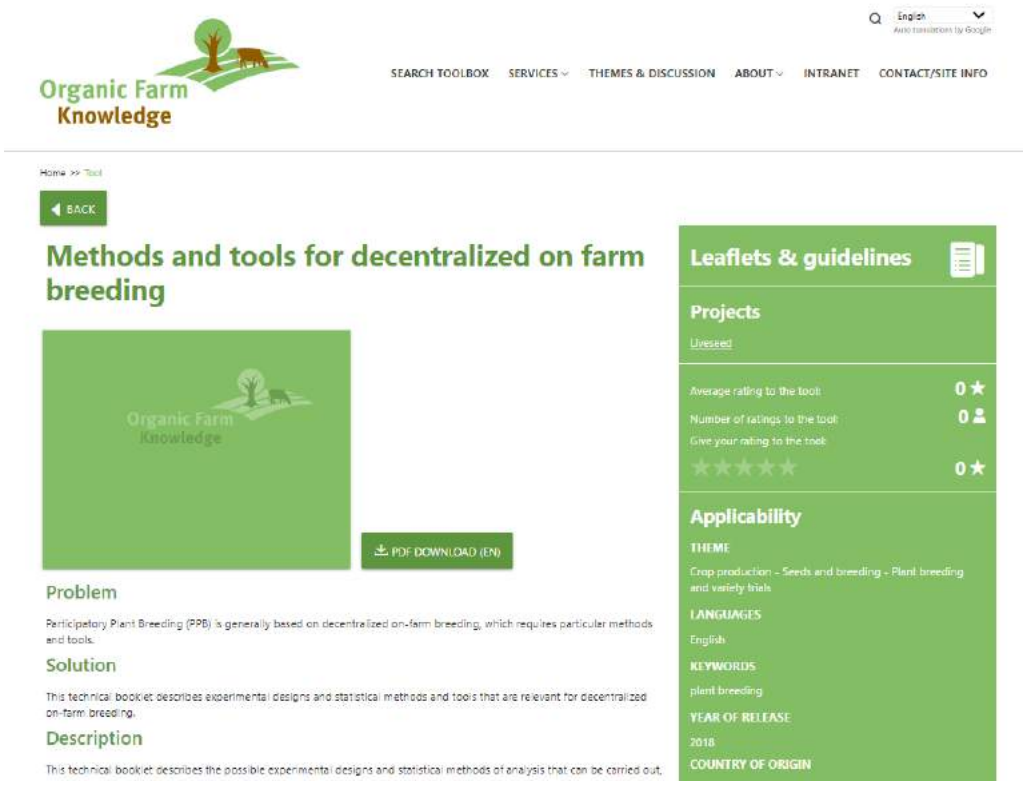


*Figure 36 - Screenshot of tool 32 on OFK platform*

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.

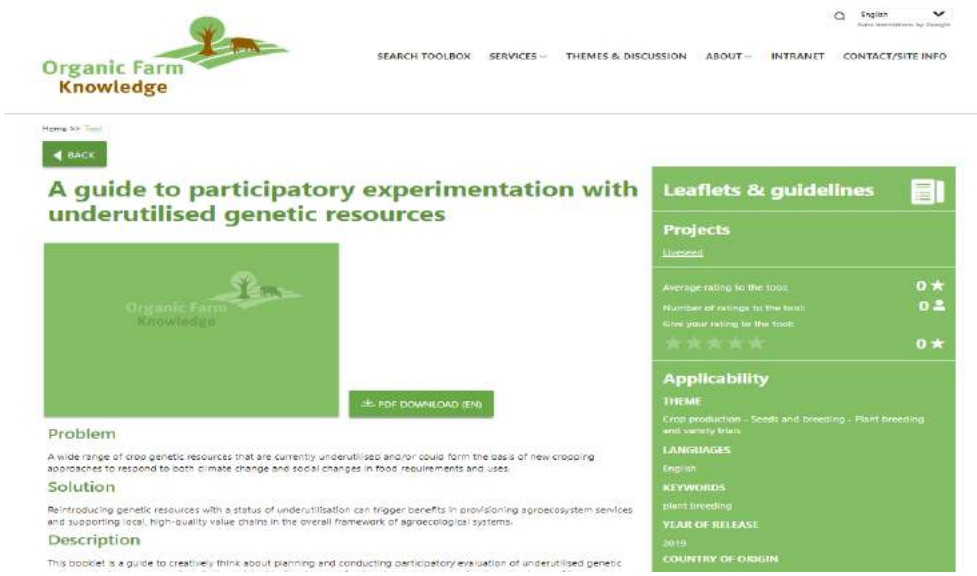


*Figure 36 - Screenshot of tool 33 on OFK platform*

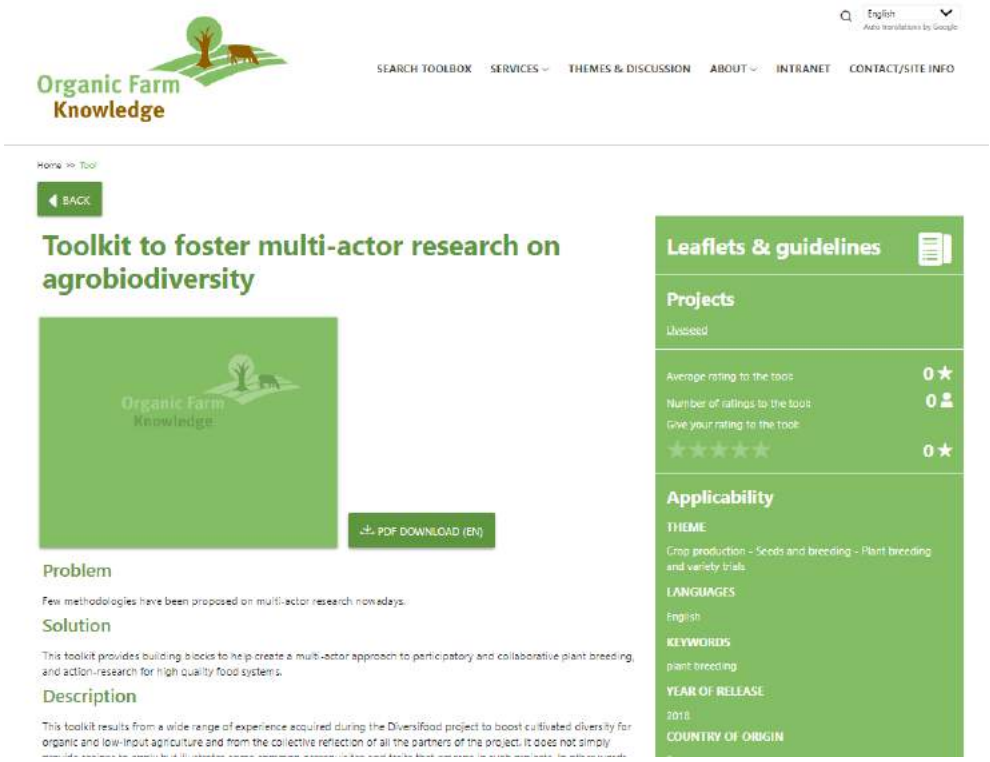


*Figure 37 - screenshot of tool 34 on OFK platform*

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. Videos with expert interviews and demonstration of good practices

LIVESEED produced several videos with expert interviews on specific topics and demonstration of good practices in WP5. All those materials were put available online on the LIVESEED project website and on the Organic Farm knowledge platform.

*Table 3 – List of videos with expert interviews and demonstration of good practices*

| N. | Title | Partner | WP |
|---|---|---|---|
| 1 | Bunt control strategies - Anders Borgens | OMKI/RSR | WP5 |
| 2 | Demonstration brush seed cleaning - Anders Borgens | OMKI/RSR | WP5 |
| 3 | Saving and Storing Tomato Seeds - Adrian Rodriguez Burruezo | SEAE/UPV | WP3 |
| 4 | Community seed bank - Bettina Bussi | RSR | WP5 |
| 5 | Grain cleaning | OMKI | WP5 |
| 6 | Field trials for treatments against Tilletia caries | AGES | WP5 |
| 7 | White Lupin Resistance Breeding – Anthracnose screening | FiBL | WP3 |
| 8 | How to organise a field day - Riccardo Bocci | RSR | WP5 |
| 9 | LIVESEED Cross-visit Netherlands: Pumpkin breeding in organic | Vitalis | |

## 5.1 Screenshot of videos on LIVESEED project website

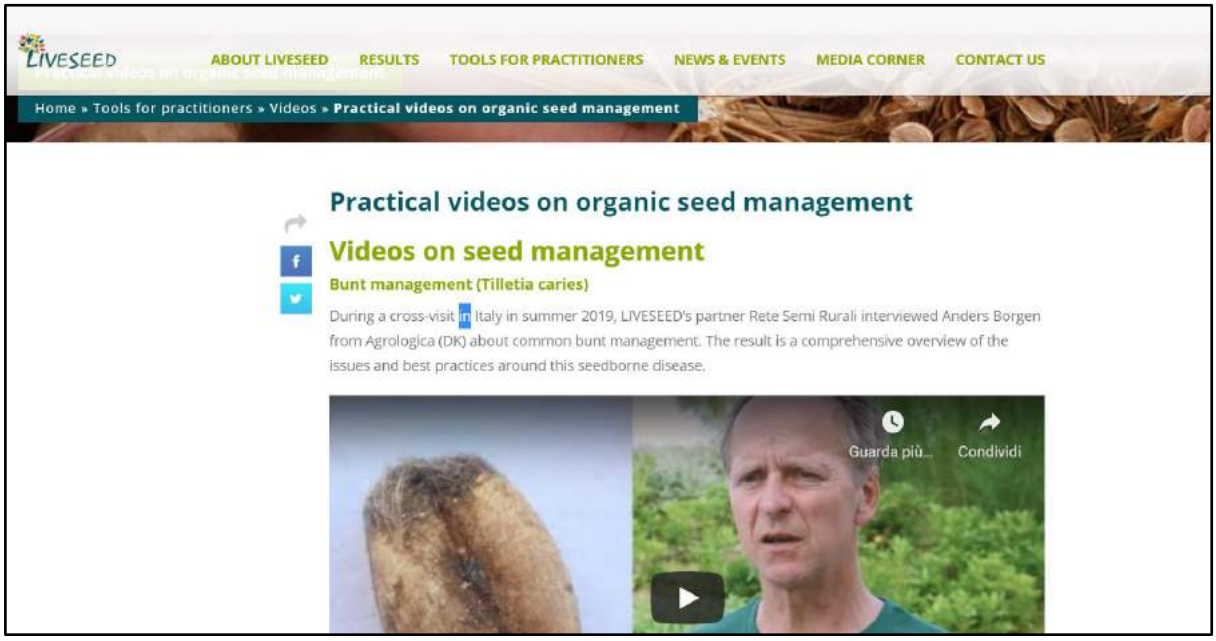


*Figure 38 - Video on Bunt control strategies - Anders Borgens*

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.

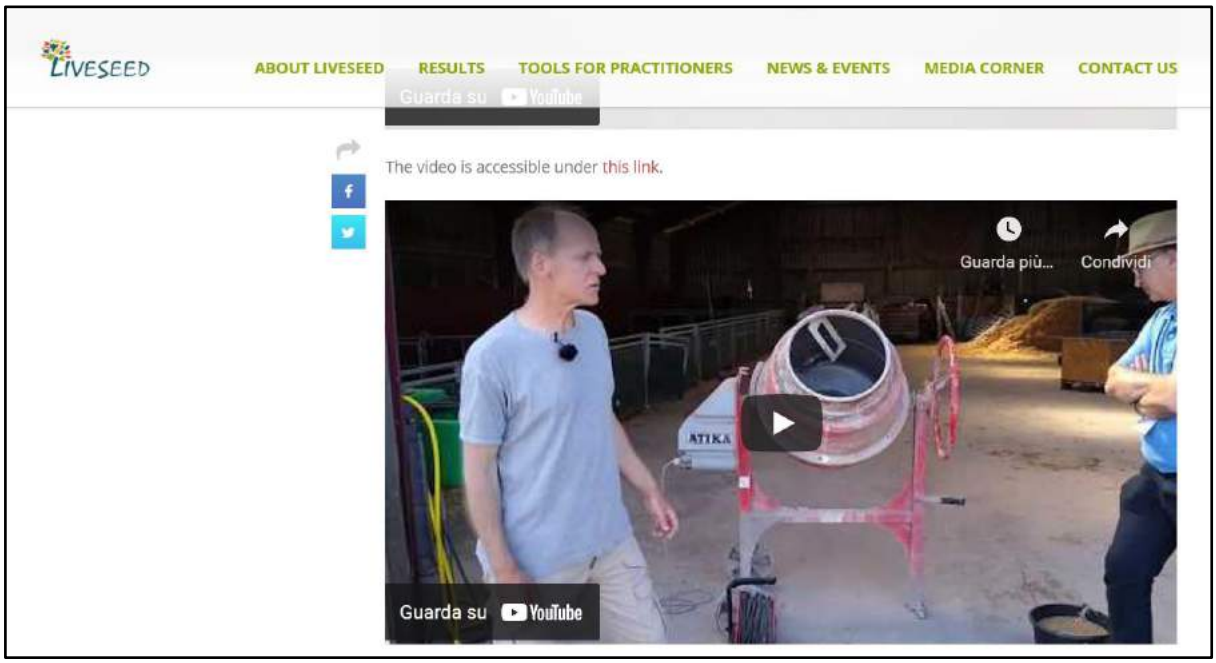


*Figure 39 - Demonstration brush seed cleaning - Anders Borgens*

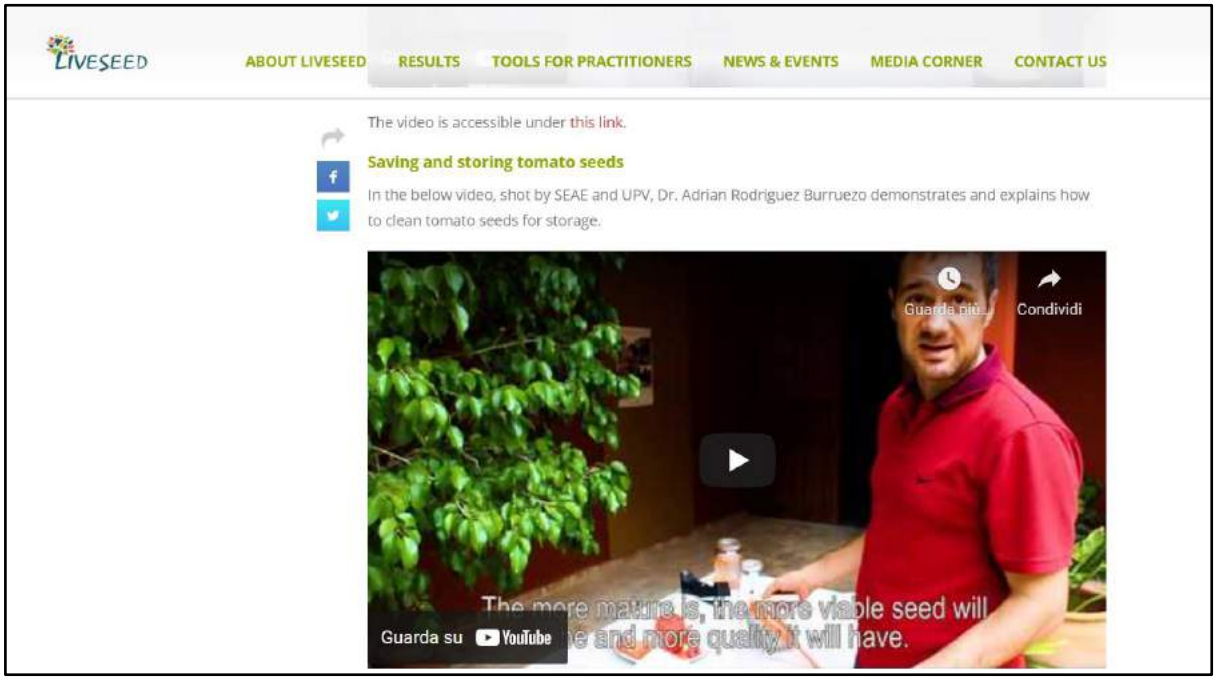


*Figure 40 - Saving and Storing Tomato Seeds - Adrian Rodriguez Burruezo*

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.

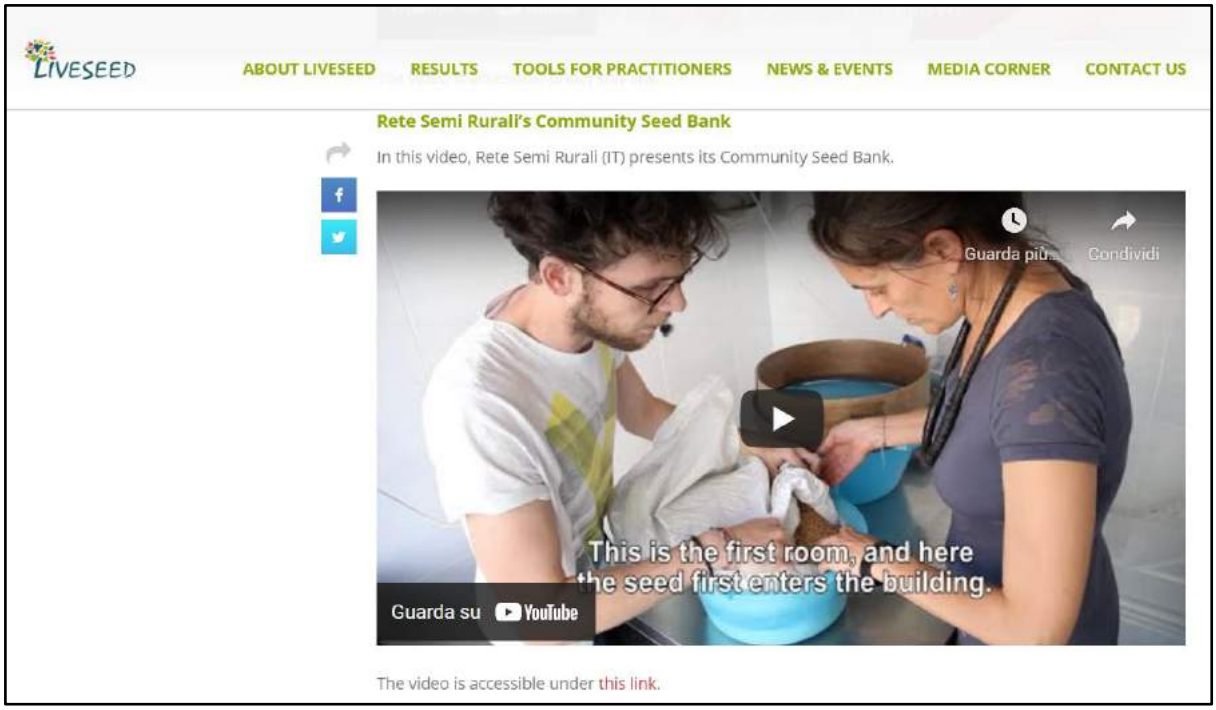


*Figure 41 - Community seed bank – RSR (Bettina Bussi)*

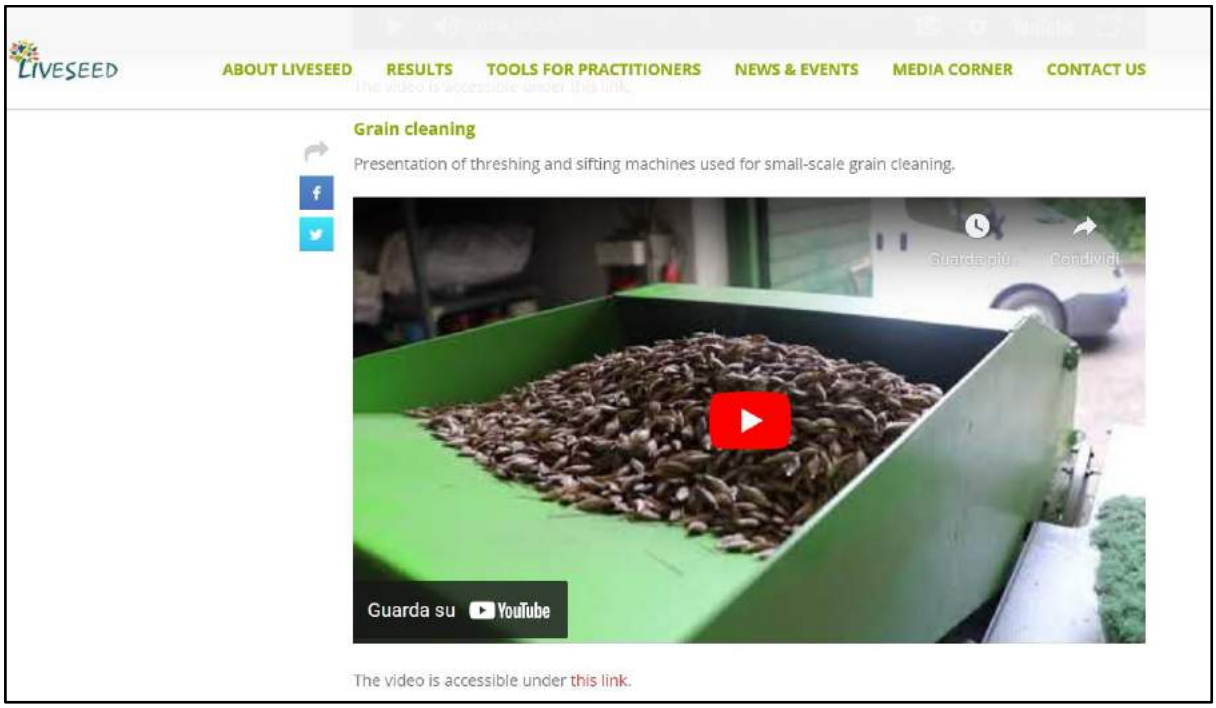


*Figure 42 - Grain Cleaning*

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.

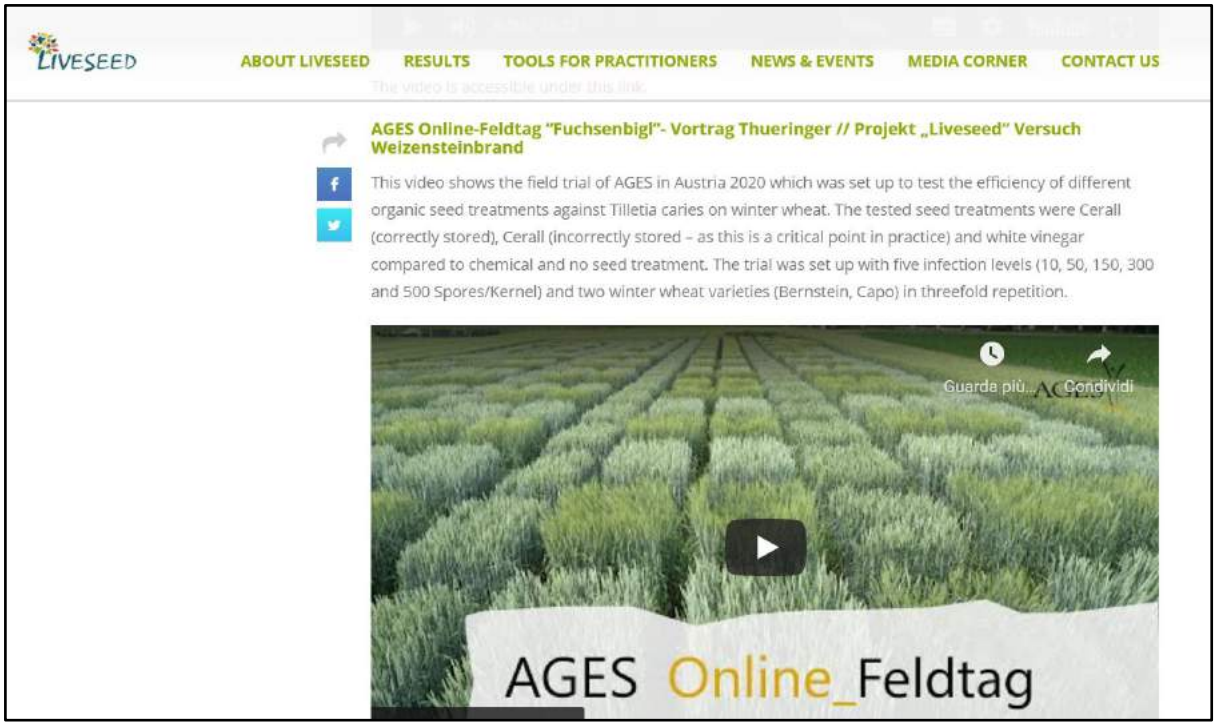


*Figure 43 - Trials on treatments for bunt management – AGES*


*Figure 44 - White Lupin Resistance Breeding – Anthracnose screening*

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.

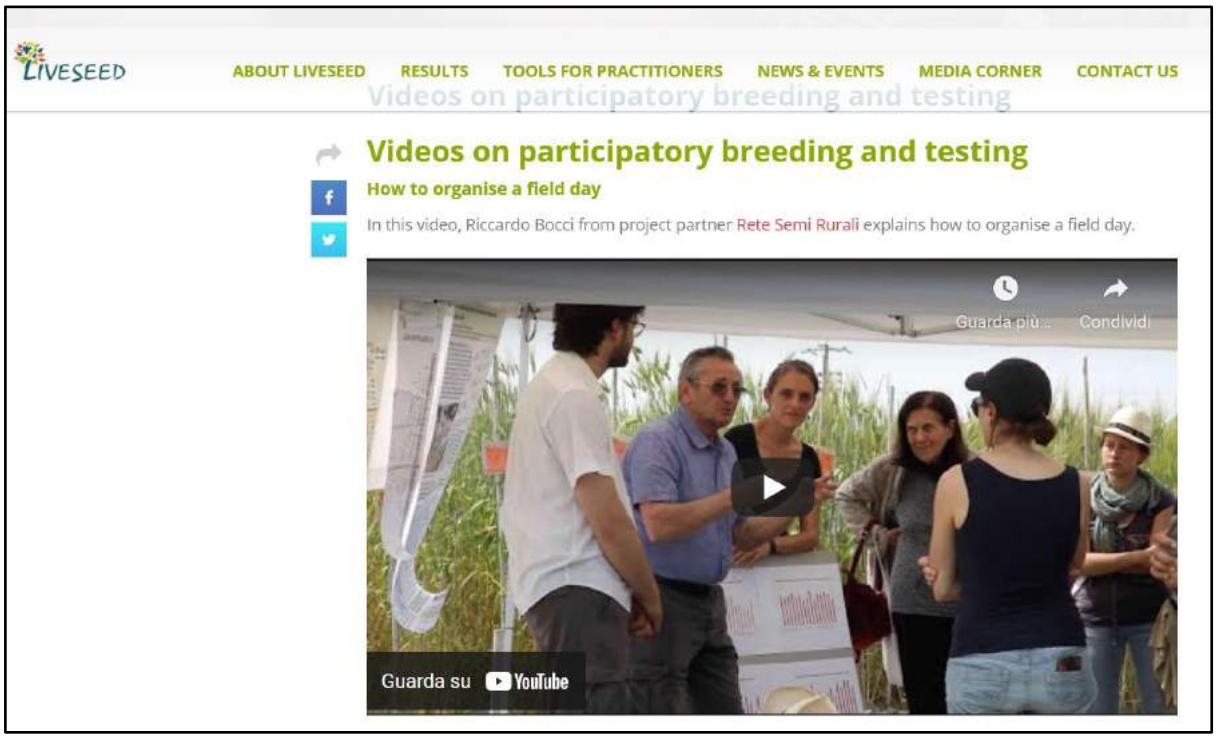


*Figure 45 - How to organise a field day - Riccardo Bocci*

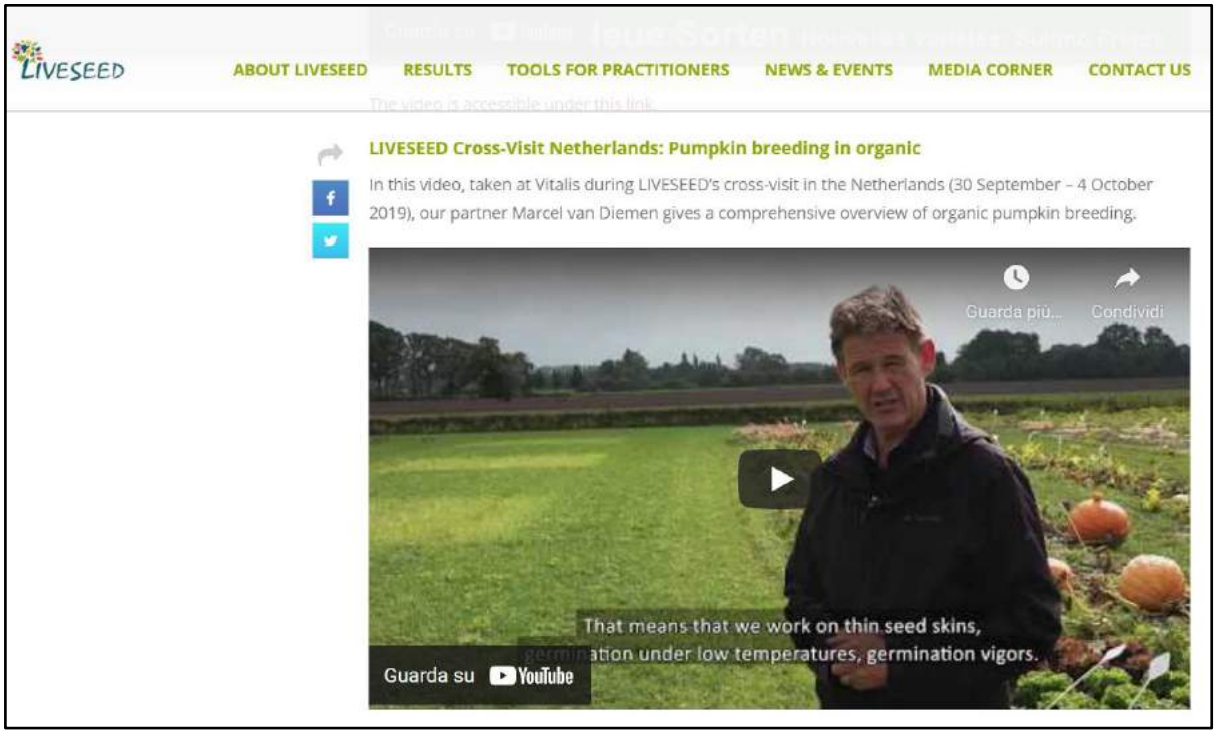


*Figure 46 - Pumpkin breeding in organic*

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.

## Screenshot of videos on Organic Farm Knowledge Platform

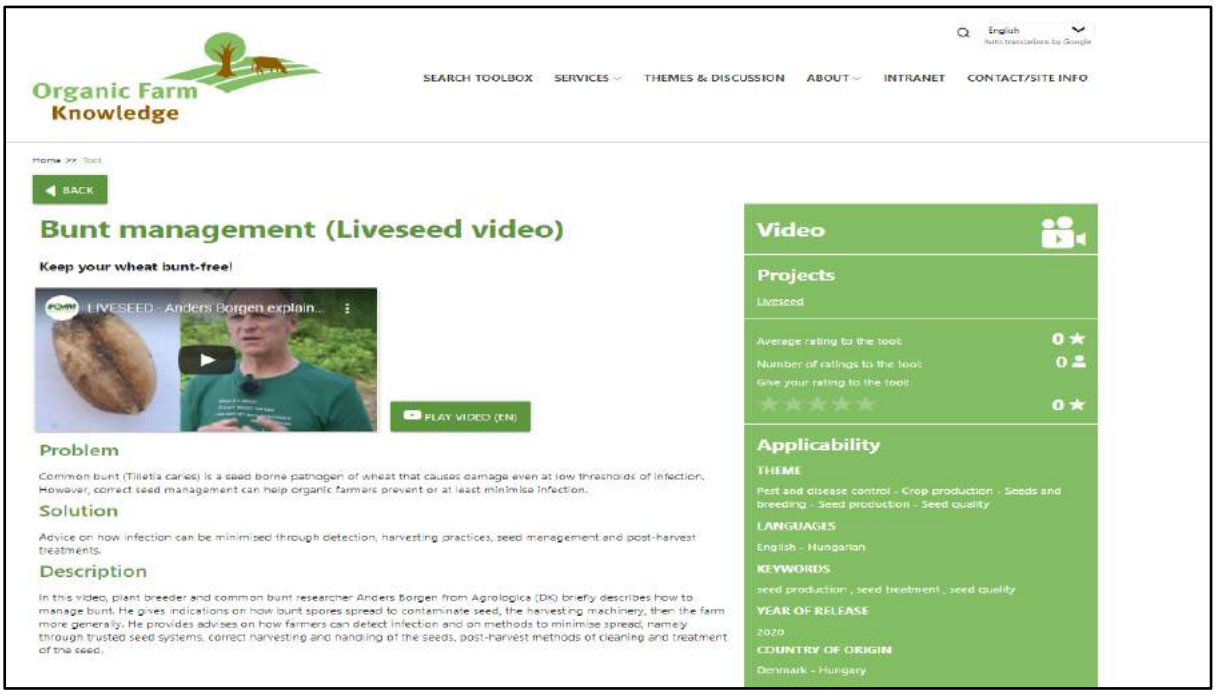


*Figure 47 - Screenshot of video 1 in OFK platform*

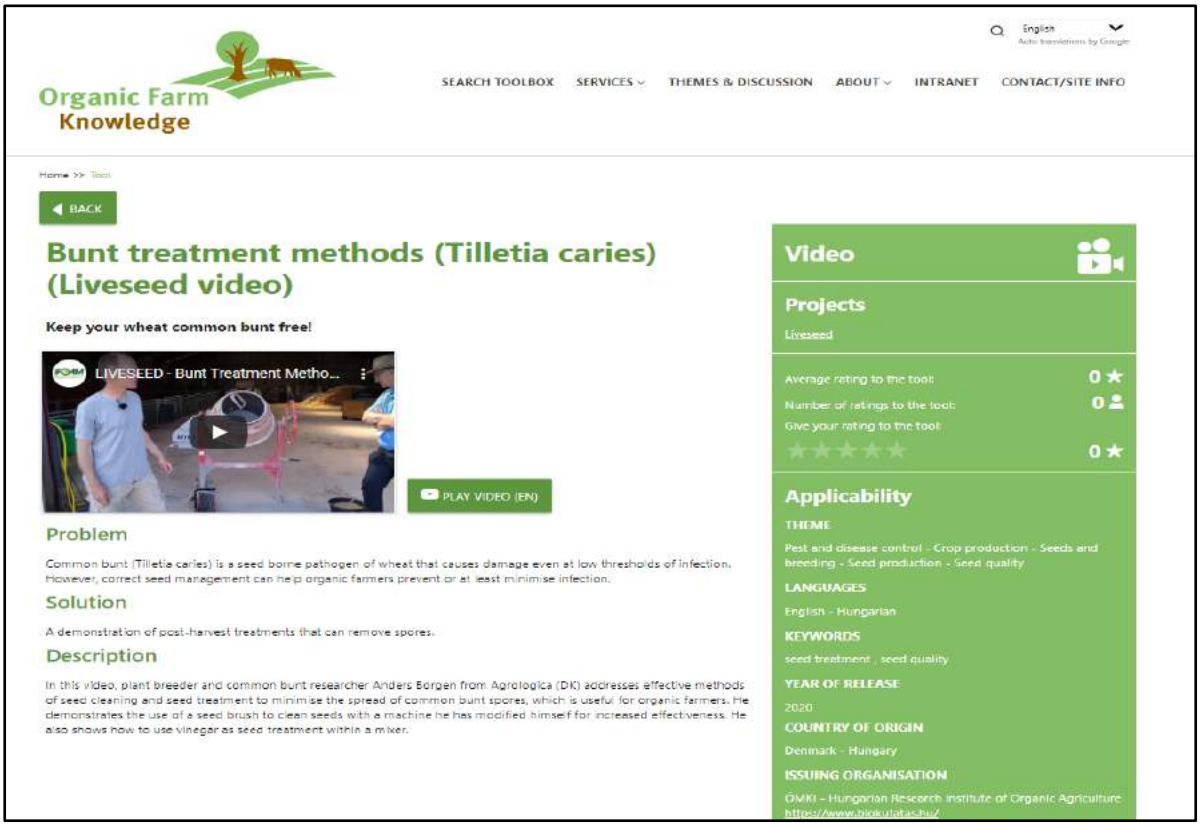


*Figure 48 - Screenshot of video 2 in OFK platform*

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.

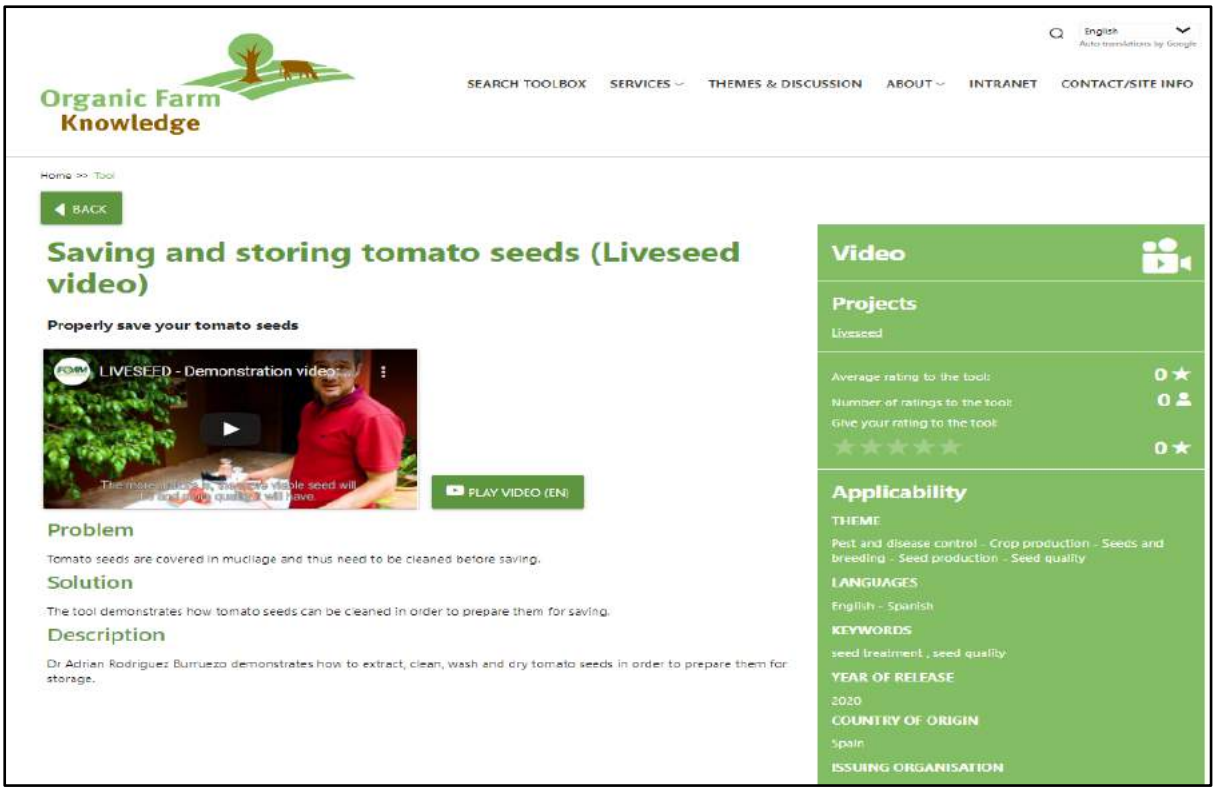


*Figure 49 - Screenshot of video 3 in OFK platform*


*Figure 50 - Screenshot of video 4 in OFK platform*

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.

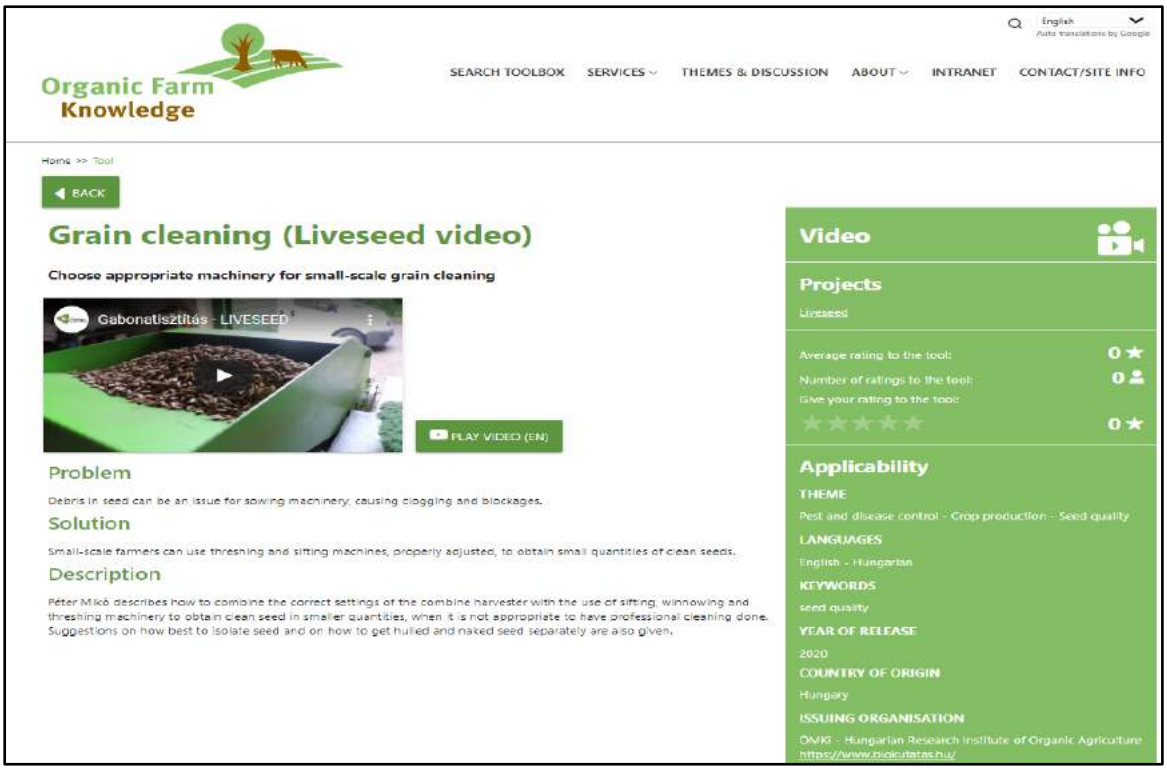


*Figure 51 - Screenshot of video 5 in OFK platform*

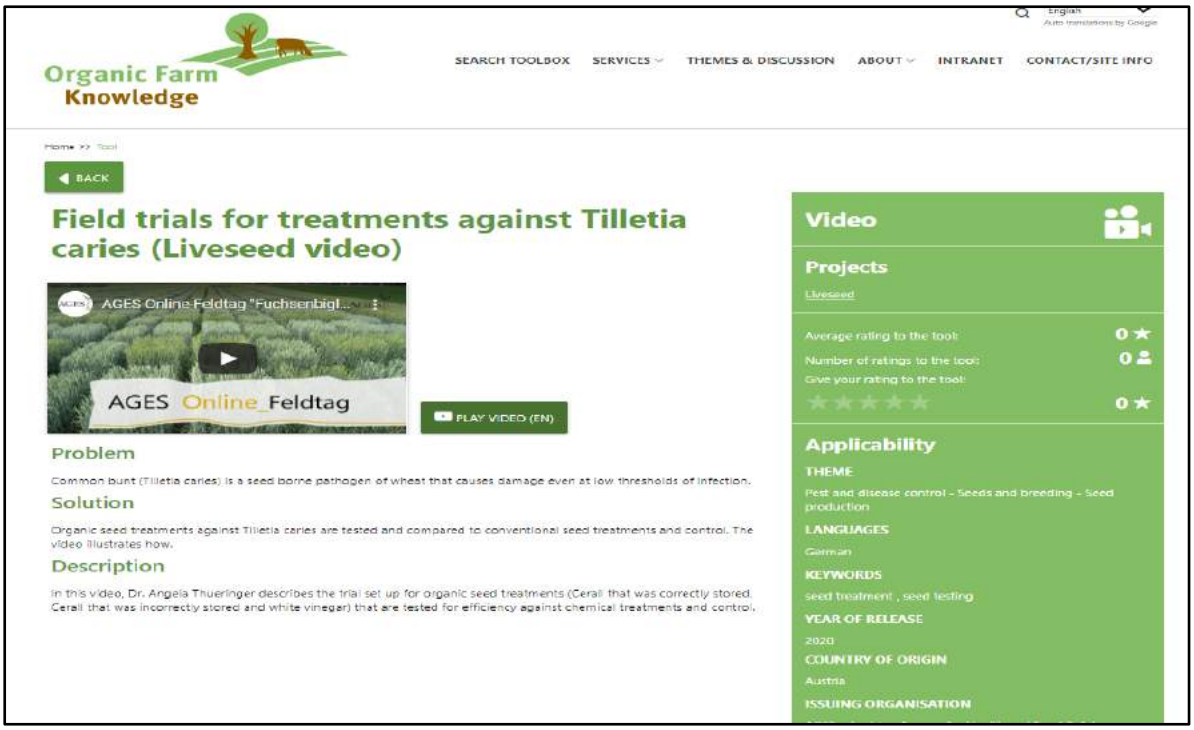


*Figure 52 - Screenshot of video 6 in OFK platform*

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 53 - Screenshot of video 7 in OFK platform*

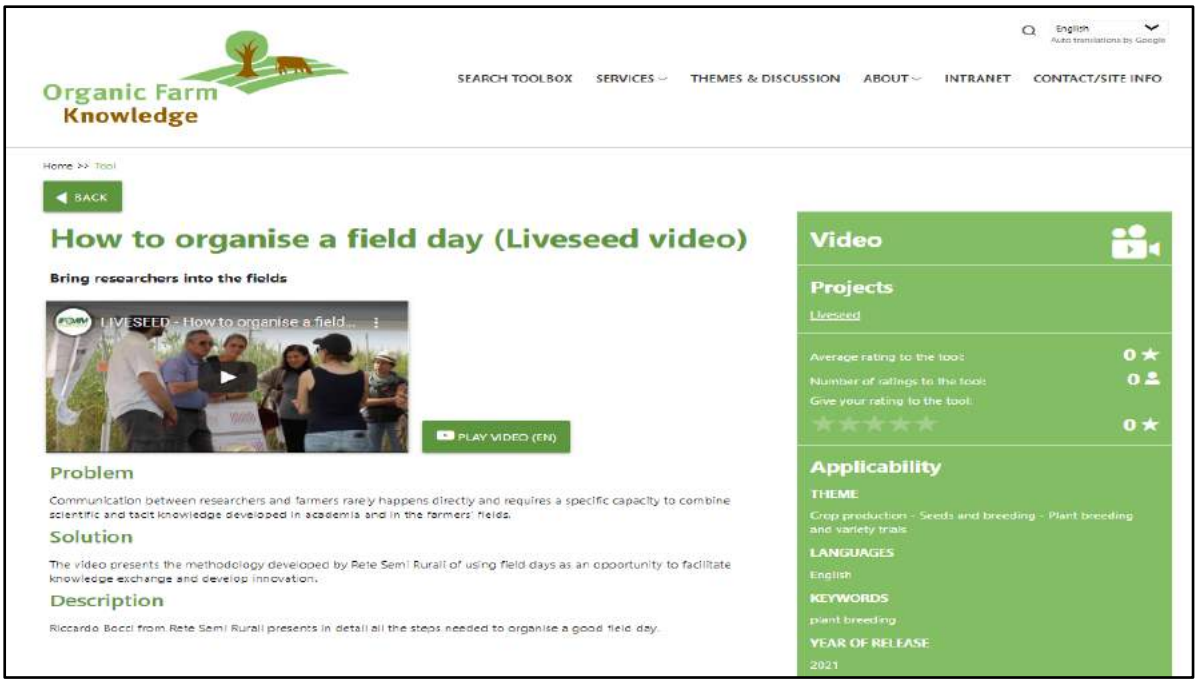


*Figure 54 - Screenshot of video 8 in OFK platform*

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.

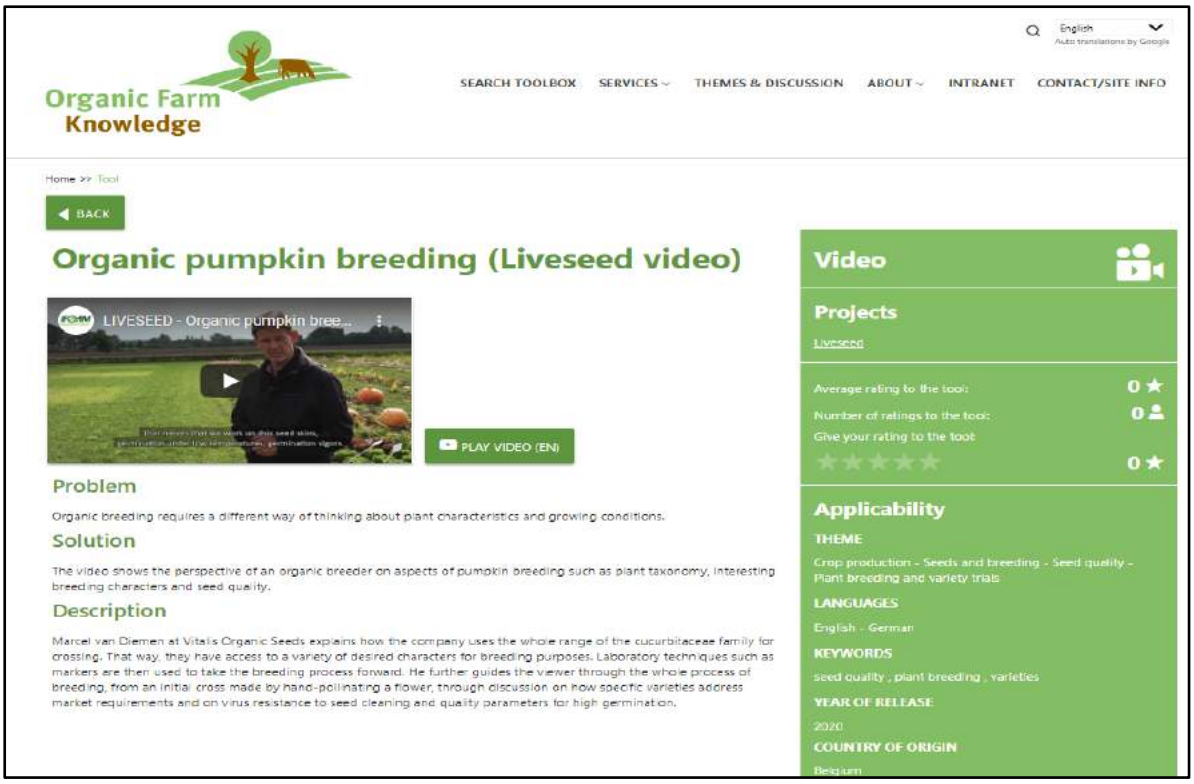


*Figure 55 - Screenshot of video 9 in OFK platform*

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. Success stories based on LIVESEED Cross Visits and National Visits

Seed and their biodiversity are key elements for the development of organic agriculture and for the agro-ecological transition of food systems. The availability of seed and vegetative propagating materials that are not only adapted but also adaptable to the diversity of organic farming systems and agro-ecological environments, can boost organic farms' productivity, their yield stability and the quality of their end products, while making them more independent from the conventional sector. Yet, although the supply and diversity of organic seed is improving, the majority of organic crop production1 is still based on seed selected for and produced within the conventional sector. Major changes in how seed for organic regimes is bred and multiplied are long overdue, and will involve all the actors of the seed value chain, from producers to final users.

In this context, the LIVESEED project organised a discovery journey through a number of cross-visits in Europe with the aim of:

- documenting success stories of organic seed selection and production/ multiplication,
- enabling mutual learning among professionals,
- forging relationships as a basis for an EU professional network on organic seed
- inspiring and initiating change

A specific booklet has been developed for documenting 8 success stories of organic seed selection and production/multiplication. The booklet is available online both on the LIVESEED project website and on the Organic Farm Knowledge Platform.

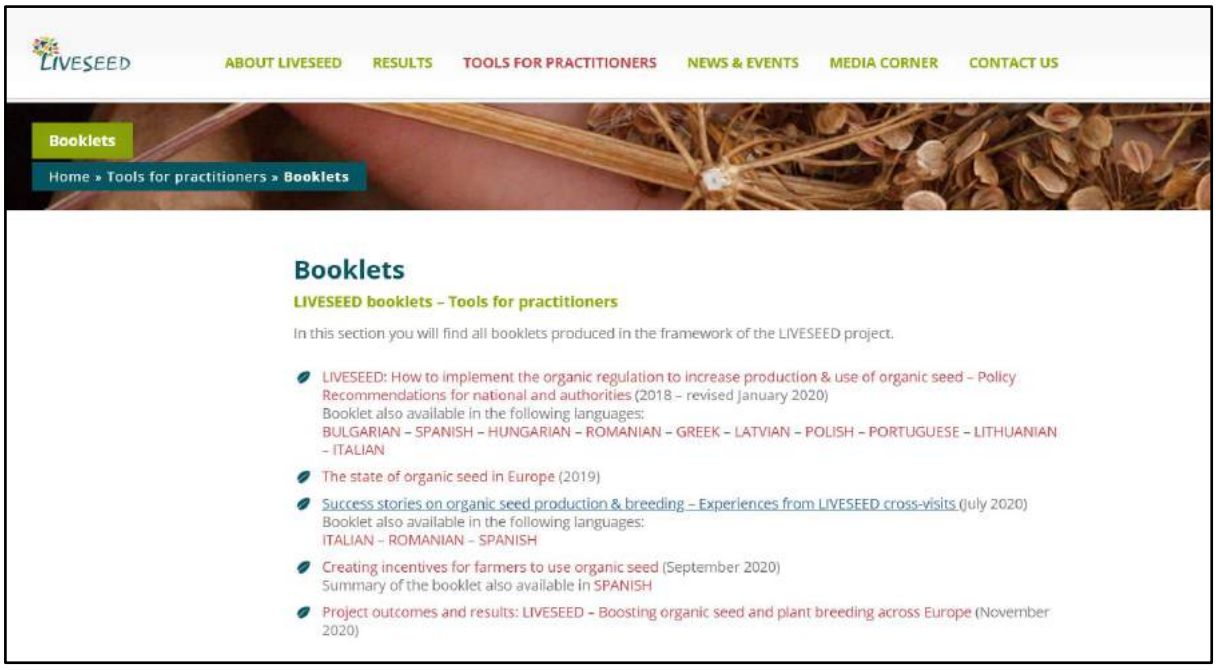


*Figure 56 - Screenshot of booklet on success stories on LIVESEED project website*

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.

**Success stories :**



*Figure 57 - List of success stories included in the booklet*

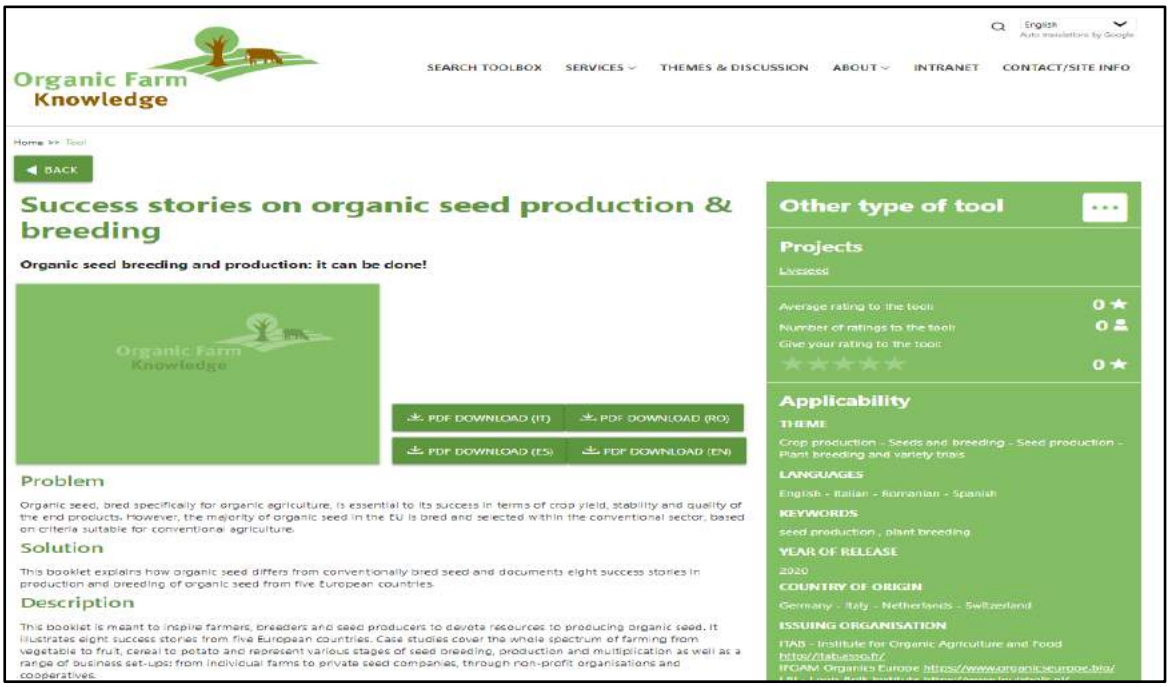


*Figure 58 - Screenshot of Booklet with success stories on the OFK Platform*

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. Practice Abstracts on Smart Practices

A specific set of 10 practice abstracts was developed with the specific focus to share smart practices with practitioners.

The table below shows the list of such abstracts, partially developed in connection with the cross-visits of the LIVESEED project.

*Table 4 - List of PA on smart practices*

| N. | Title | Partner |
|---|---|---|
| 4 | Creating dynamic and diverse populations | INRAE |
| 25 | Proper seed storage | WUR |
| 59 | Treating wheat seed with vinegar against common bunt | ITAB AGROLOGICA |
| 41 | Application of acetic acid as a seed treatment in organic cereal seed | AGROLOGICA |
| 16 | Guidelines for on-farm variety testing | De Beersche Hoeve |
| 3 | Cooperatives as model to improve organic seed production | De Beersche Hoeve |
| 21 | The difference between certified seed and "untreated" conventional seed | VITALIS BIONEXT |
| 37 | Farm saved seed: what rules? | RSR |
| 38 | Conservation varieties in Italy | RSR |
| 51 | How to set up a community seed bank | RSR |

## Screenshots of Practice Abstracts on Organic Farm Knowledge platform


*Figure 59 - Screenshot of PA 4 on the OFK platform*

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.

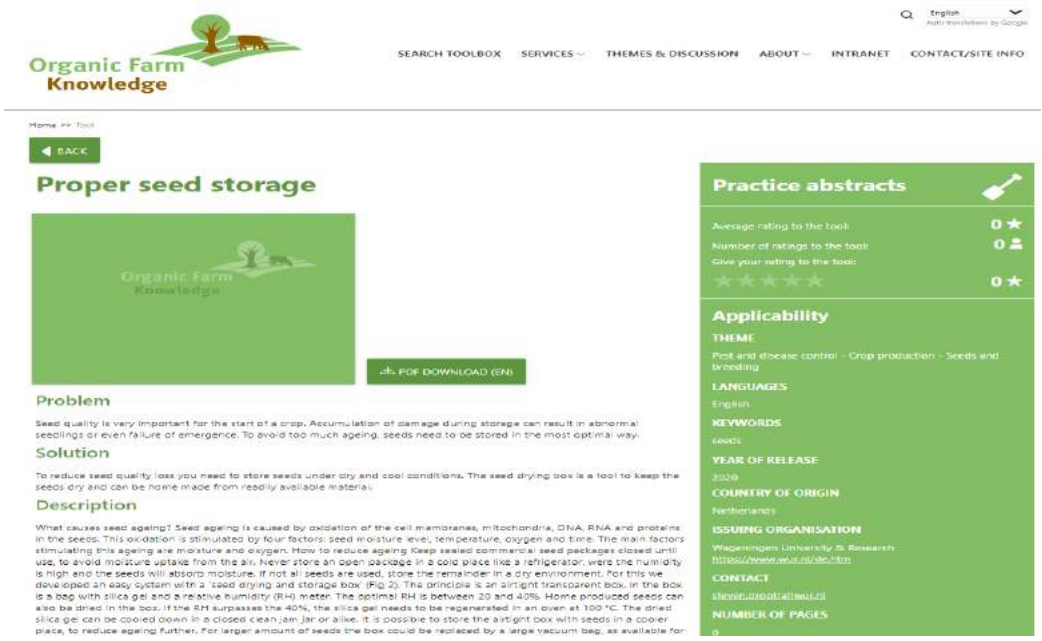


*Figure 60 - Screenshot of PA 25 on the OFK platform*

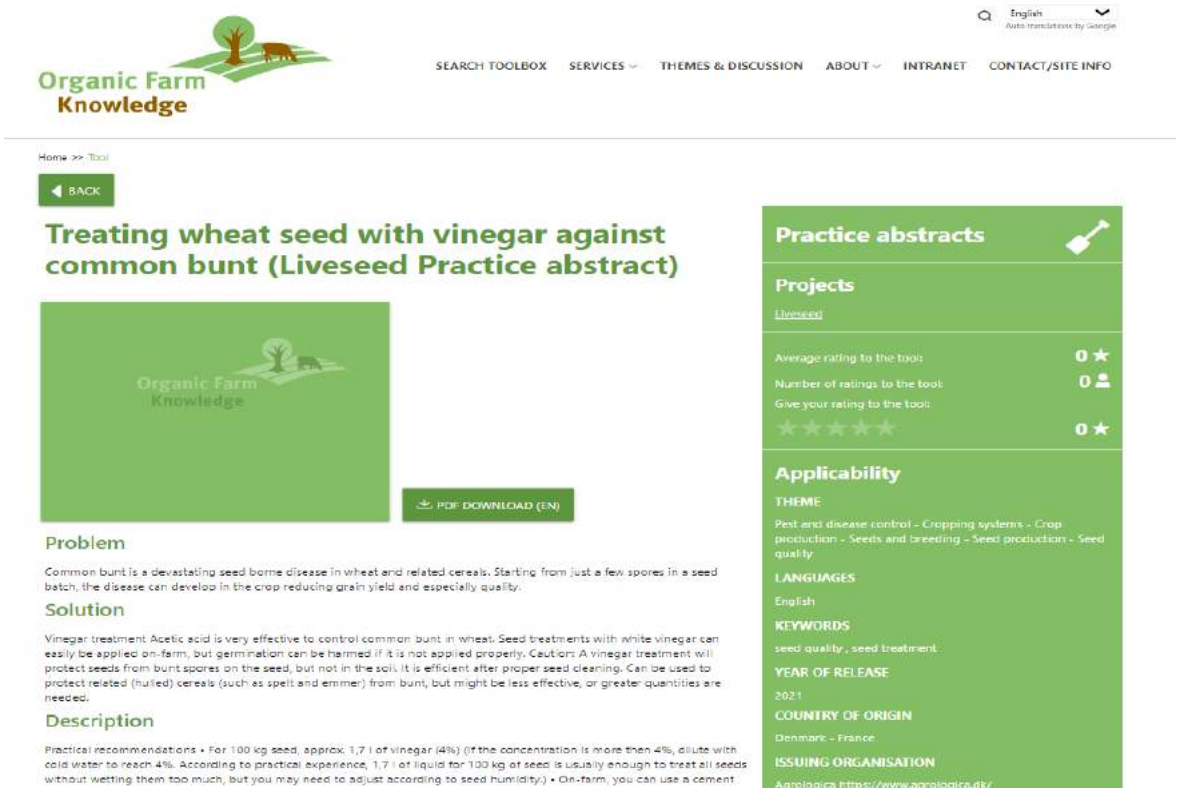


*Figure 61 - Screenshot of PA 59 on the OFK platform*

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 62 - Screenshot of PA 41 on OFK Platform*

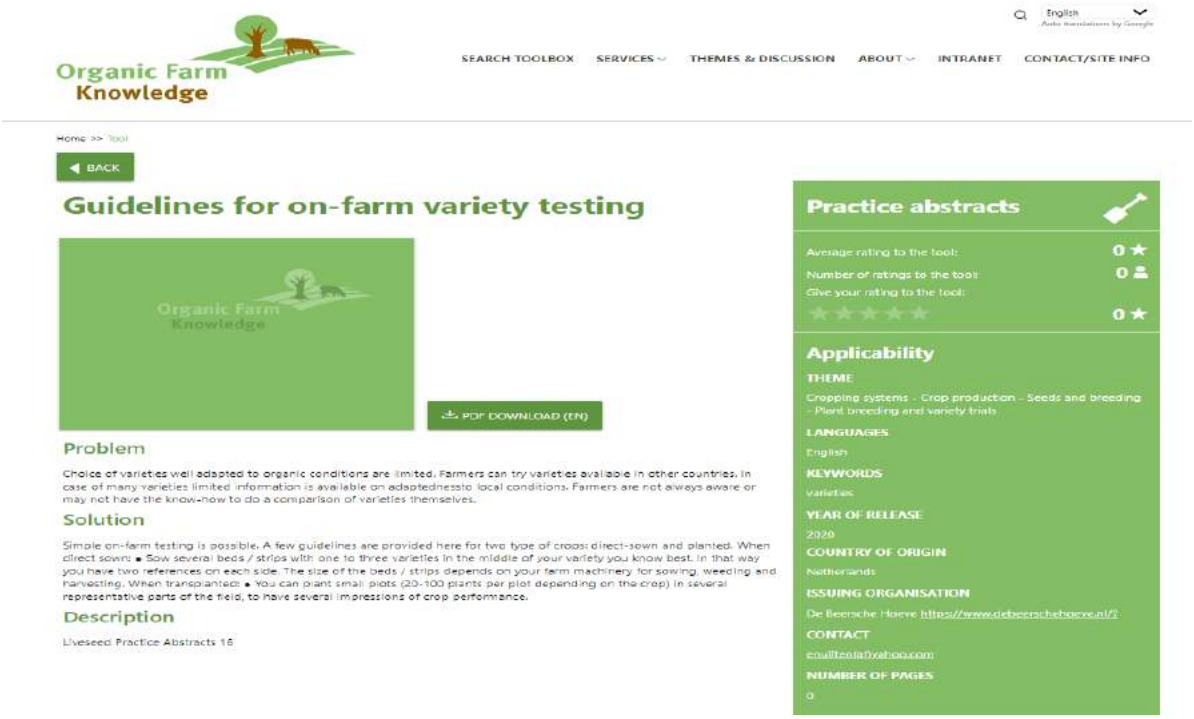


*Figure 63 - Screenshot of PA 16 on OFK platform*

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.

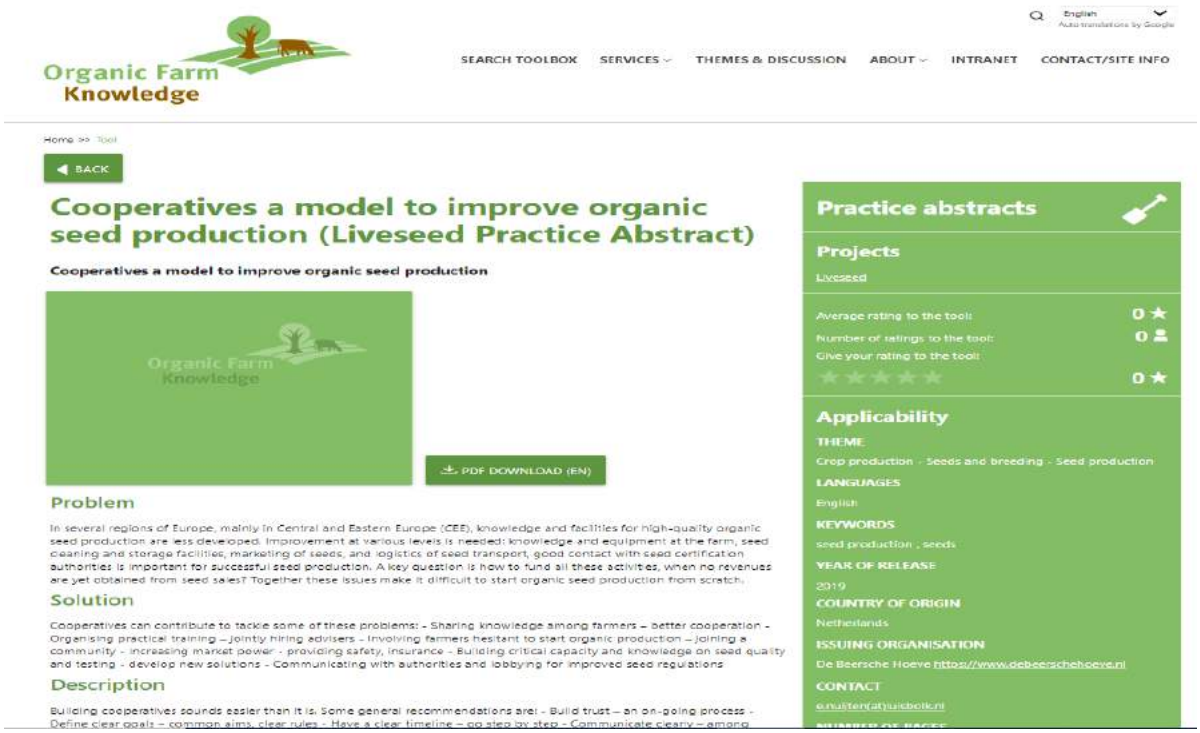


*Figure 64- Screenshot of PA3 on OFK Platform*

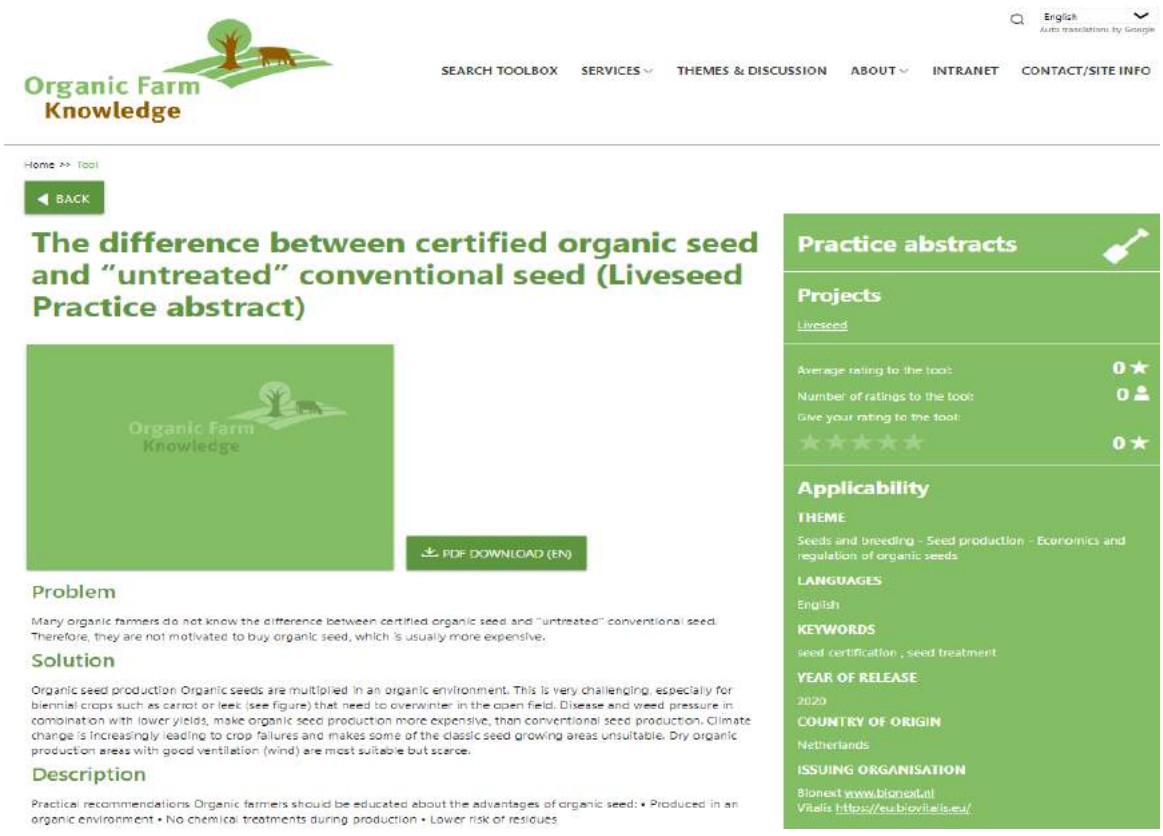


*Figure 65 - Screenshot of PA21 on OFK Platform*

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.

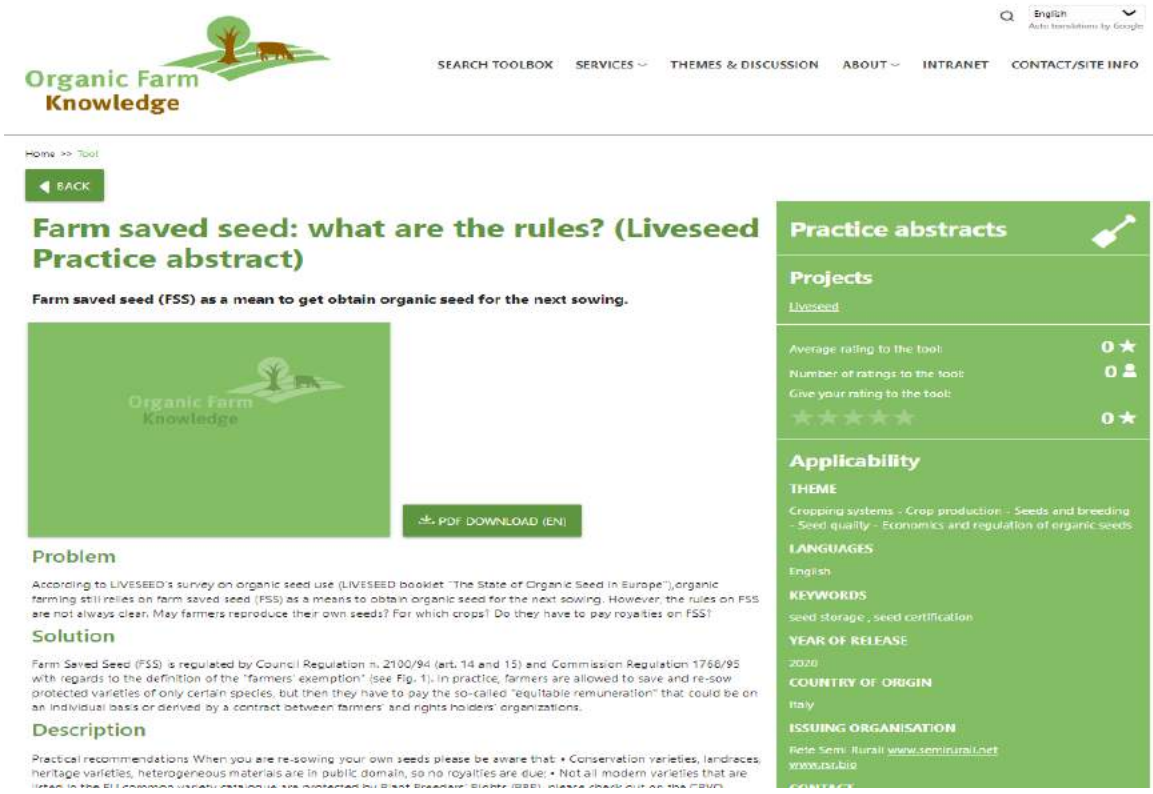


*Figure 66 - Screenshot of PA37 on OFK Platform*


*Figure 67 - Screenshot of PA 38 on OFK Platform*

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.

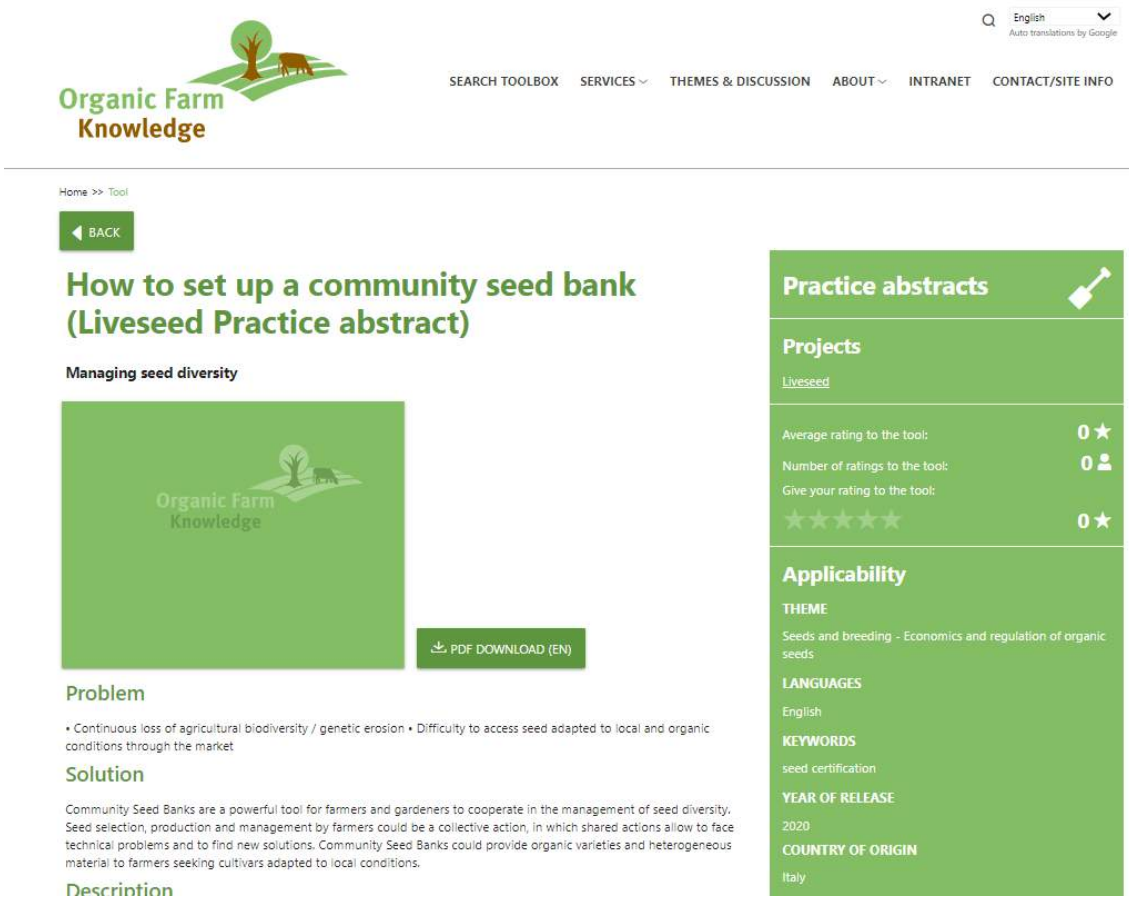


*Figure 68 - Screenshot of PA 51 on OFK Platform*

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

## Organic Farm-Knowledge Platform Tool Description Form developed by RSR in 2018/19 for the Seed section

# Proper seed storage

Make separate descriptions for each tool. In case you want to describe a series of videos, or series of leaflets, you should describe each video/leaflet separately. Only when videos/leaflets/… are translations of each other, one description is sufficient. (e.g. same video in English, French and German).

Please only write in the **3rd column of the table** ("Your information about the tool").
Fields shown in blue are only relevant for the person uploading to Organic E-prints and should not be completed by you.
Fields marked with # are optional or only to be filled in if relevant (see explanation)

| **Heading/Field** | **Explanation – what needs to be filled in** | **Your information about the tool** | **Instructions for uploading to Organic E-prints** |
|---|---|---|---|
| Title | Title of tool in English | Proper seed storage | Copy and paste |
| #Title in original language | Title of tool in original language, if not English | n.a. | Copy and paste |
| Document language (s) | Language of the document(s) | English | Choose the relevant language(s). |
| Status | | | "Published" if publicly available, "Unpublished" if not (e.g. if only available on Organic E-prints and organic-farmknowledge.org such as Practice Abstracts) |

# Tool description

| | | | |
|---|---|---|---|
| Date | Enter year of release or "Information not available". | 2019 | Enter year of release (if available). You do not need to enter month and day. |
| Date type | | | "Publication" if published, "Completion" if unpublished |
| Creator(s) | Enter first and last names of authors, editors or other type of responsible persons | Steven P.C. Groot (Wageningen University & Research) | Copy and paste |
| Issuing organisation(s) | | | Copy and paste from "Issuing organisation details" |
| Contact email address | Enter the email address for contact about the tool. It should be for a person directly responsible for the tool or a specific email for the tool, or if this is not possible, for the issuing organisation. | steven.groot@wur.nl | Copy and paste |
| #Series name | *If practice abstract, put "LIVESEED Practice abstract".* If otherwise a series product, put relevant name. do not "invent" series names, e.g. "LIVESEED Tool Description" | LIVESEED Practice Abstract | Copy and paste |
| #Series number | *Enter Practice Abstract number* or other series number | 5 | Copy and paste |
| #Page range | For all relevant tools, not just PA's and other series! Enter first and last page (with a hyphen in between) or "Not | 2 | Copy and paste or if "Not applicable", do not enter anything. |

# Tool description

| | | | |
|---|---|---|---|
| | applicable" (for websites, videos etc.) | | |
| Online at | Enter link to tool.<br>*If practice abstract, do not enter link.* | https://www.liveseed.eu/wp-content/uploads/2019/10/PA5_Proper-seed-storage.pdf | Enter link to tool (copy and paste).<br>If practice abstract, enter "http://orgprints.org/xxxxx" , where "xxxxx" is the e-prints id (can be seen at top as [#xxxxx])<br>If video, a link to the YouTube video must be entered, see more HERE |
| #Accessed on date | If web product, enter date it was accessed. If not, leave empty | 10/01/2020 | Copy if relevant |
| Issuing organisation details | Name(s) of issuing organisation(s) &<br>Website (be sure to start with www. or http:// otherwise it will not be shown as a link on the platform).<br>Do not enter country of issuing organisation | Wageningen University & Research, PO box 16, 6700AA, Wageningen, The Netherlands<br>https://www.wur.nl/en/wageningen-university.htm | Copy and paste |
| Country | Enter country of issuing organisation | The Netherlands | Enter relevant country |
| What problem does the tool address | 1-2 sentences | Seed quality is very important for the start of a crop. Accumulation of damage during storage can result in abnormal seedlings or even failure of emergence (Figure1). To avoid too much ageing, seeds need to be stored in the most optimal way | Copy and paste |
| What solution does the tool offer? | 1-2 sentences | Seed ageing is caused by oxidation of the cell membranes, mitochondria, DNA, RNA and proteins in the seeds. This oxidation is stimulated by four factors: seed moisture level, temperature, oxygen and time. | Copy and paste |

# Tool description

| | | | |
|---|---|---|---|
| | | The main factors stimulating this ageing are moisture and oxygen. | |
| Description (Summary) | Max. 1000 characters, describing briefly:<br>- the purpose of the tool and which solutions it provides, giving 1-2 key recommendations<br>- the type of tool and how it works<br>- the target group of the tool (new/converted farmers, experienced farmers, advisors etc.)<br>- if the tool is specific for organic farming or not only<br>- relevant/ specific location where the tools can be used<br>- other specificities of the tool | NO SENSE FOR PRACTICE ABSTRACTS WHICH ARE ALREADY SHORT | Copy and paste |
| #Description in another language | If original language is not English | | Copy and paste |
| Teaser | Catchy sentence about what you can achieve with the tool, max. 10 words | Seed storage | Copy and paste |
| Theme | Preferably, choose only one or at most two themes. Choose only the most relevant. | ☒ Organic Seed Production, Seed Cleaning, processing and storage<br>☐ Seed quality and health under organic management<br>☐ Organic Plant Breeding and variety trials<br>☐ Economics and Regulation of organic seeds (including contracting, certification and market issues | Tick relevant box |

# Tool description

| | | | |
|---|---|---|---|
| Subject Area | Preferably, choose only one, or at the most, two subject area. Choose only the most relevant. | ☒ Breeding<br>☐ Genetics and propagation<br>☐ Policy environments and social economy | Choose according to the themes as shown here:<br>*Theme -> Subject*<br>Organic Plant Breeding –> Breeding<br>Organic Seed Production –> Production Systems<br>Seed quality and health → Crop health, quality, protection<br>Economics and Regulation → Policy environment and social economy<br>**If relevant, add a few (2-3) other subjects, but only if they constitute an important part of the tool – do not try to add everything that is mentioned in the tool** |
| | | | |
| Tool type | Choose only ONE type! Only choose the type of the tool itself. E.g. a website containing several videos and leaflets, is of type "web", not video or leaflet. | ☐Calculation tools<br>☐Leaflets & guidelines<br>☒Practice abstracts<br>☐Books & reports<br>☐Video<br>☐Audio<br>☐Web<br>☐Online courses<br>☐Other type of tool - Write type: _____ | Tick relevant box<br>If "other type" Write type in free-text box |
| ID for LIVESEED selection | | | LIVESEED<br>**it is very important to enter this exactly as shown (no capital letters, no spaces), otherwise the tool will not appear on the knowledge platform!** |
| #Related links = URL for more information | If relevant, you may add a link to e.g. a relevant website other than the link to the tool or the issuing organisation. | https://library.wur.nl/WebQuery/wurpubs/534005 | Put the link to the tool in organic-farmknowledge.org (http://farmknowledge.org/index.php/search-for-ok-tools?v=xxxxx where "xxxxx" is the eprint |

# Tool description

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|---|---|---|---|
| | | | id). Copy and paste the link for the issuing organisation (from "Issuing organisation details). If relevant, add link to e.g. a relevant website other than the link to the tool or the issuing organisation. |
| Additional publication information | | | If relevant, add text |
| Comments and suggestions | | | Usually not relevant to add text |
| | | | Tick relevant boxes for chosen keywords. Remember to tick "Seeds". |
| Keywords Agrovoc | **Theme 1 – Organic Seed Production, seed cleaning, processing and storage**<br>Select 3-5 keywords<br>☐ seeds<br>☒ seed production<br><br>**Theme 2 – Seed quality and health under organic management**<br>☐ seed quality | **Theme 3 – Organic Plant Breeding and variety trials**<br>☐ plant breeding<br>☐ seed testing<br>☐ genetic resistance<br>☐ varieties<br><br>**Theme 4 – Economic and Regulation of organic seeds (including contracting, certification and market issues)**<br>☐ seeds | |
| | | | |

# Tool description

| | | | |
|---|---|---|---|
| Affiliation | | | Choose **LIVESEED u**nder European Union<br>**Further affiliations, such as issuing organisation, should be added after the eprint is online, in order to avoid other national editors uploading tools without our check** |
| Upload – add document | | | If file: click "Browse", choose your file, click "Open"<br>If website: click the tab "From URL". Paste URL and click "Upload".<br>If video: add URL from redirect-program, see how to do it HERE. Add the text "YouTube-video" in the field "Other content or format information". |
| Access rights | Indicate whether there is open access to the tool. Normally, we do not include tools that do not have Open Access; however, access may be restricted in Organic E-prints as long as there is a link with open access.<br>Add explanation of conditions in case of restricted access e.g. if temporary for how long? | ☒"Open access"<br>☐"Restricted access"<br>If restricted, conditions: _____ | If access is not restricted, you do not need to do anything.<br>If access is restricted: Click "show options" in upload sheet. For "Visible to", choose [Depositor and staff only] in case of restricted access. If restriction is temporary, enter "Embargo expiry date". |
| Cover image | | | Practice tools of the types "Calculation tools", "Leaflets & guidelines", "Books & reports" and "Web" are required to have a cover image connected to it. See how to do it HERE |
| #FP7 projects | If the tool is an output from an FP7 or H2020 project, enter Grant Agreement Number. | LIVESEED | If the tool is an output from an FP7 or H2020 project, click "Yes" and enter Grant Agreement Number. Choose access (only if restrictions apply). |

# Tool description

| | | | |
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| | | | If the tool is NOT an output form an FP7 project, skip to the next page. This will NOT affect access defined in previous tab. |
| Deposit permission | Declare whether you have obtained the permission of the tool owner to deposit in Organic Eprints, see "Tool deposit agreement" next page. | | Click "Deposit Item now" ONLY if you are sure, LIVESEED has the right to put the tool online. If not, click "save for later" and clarify rights. |

**Tool deposit agreement**

2021-05-31

To whom it may concern [*if possible, direct it to a person*]

The Liveseed project under Horizon 2020 has created the seed section in the knowledge platform organic-farmknowledge.org. On the platform, so-called "tools" – formatted knowledge in a form available to farmers and advisors – are collected that are relevant for organic arable farming. The tools are searchable, users can rate them and discuss them in a forum.

We have found your "tool" [*insert name of tool*] publicly available on the internet [*insert link to tool*], and would like to include it in our collection. In order to make it available on the knowledge platform, we need to deposit the tool on Organic Eprints.

The tool itself is not stored on the knowledge platform, only a link to where the tool can be found, see e.g. http://farmknowledge.org/index.php/search-for-ok-tools?v=30563 . However, since Organic Eprints is an archive, the tool should be stored there and we would like your permission to do this.

This is the "Deposit agreement" from Organic Eprints:

Please let us know whether you accept that we deposit your tool [*insert tool name*] in Organic Eprints and make it available on organic-farmknowledge.org platform.
We hope you have become interested in our knowledge platform and that you will try it and tell others about it.
Kind regards,
[*your name*]

# Tool description for the Organic Farm Knowledge platform

**New Organic Farm-Knowledge Platform Tool description form developed by FiBL-CH for the whole platform in April 2021**

# Title of the tool in English (insert title)

Make separate descriptions for each tool. In case you want to describe a series of videos, or series of leaflets, you should describe each video/leaflet separately. Only when videos/leaflets/… are translations of each other, one description is sufficient (e.g. same video in English, French and German).

Please only write in the **3rd column of the table** ("Your information about the tool").
Fields shown in green are only relevant for the person uploading to Organic E-prints and should not be completed by you.
Fields marked with # are optional or only to be filled in if relevant (see explanation)

| **Heading/Field** | **Explanation – what needs to be filled in** | **Your information about the tool** | **Instructions for uploading to Organic Eprints** |
|---|---|---|---|
| Title | Title of tool in English | | Copy and paste |
| #Title in original language | Title of tool in original language, if not English | | Copy and paste |
| Document language (s) | Language of the document(s) | | Choose the relevant language(s). |
| Status | | | "Published" if publicly available, "Unpublished" if not (e.g. if only available on Organic E-prints and organic-farmknowledge.org such as Practice Abstracts) |

# Tool description for the Organic Farm Knowledge platform

| | | | |
|---|---|---|---|
| Date | Enter year of release or "Information not available". | | Enter year of release (if available). You do not need to enter month and day. |
| Date type | | | "Publication" if published, "Completion" if unpublished |
| Creator(s) | Enter first and last names of authors, editors or other type of responsible persons | | Copy and paste |
| Issuing organisation(s) | | | Copy and paste from "Issuing organisation details" |
| Contact email address | Enter the email address for contact about the tool. It should be for a person directly responsible for the tool or a specific email for the tool, or if this is not possible, for the issuing organisation. | | Copy and paste |
| #Series name | *If practice abstract, put "OK-Net Ecofeed Practice abstract".*<br>If otherwise a series product, put relevant name. do not "invent" series names, e.g. "OK-Net Ecofeed Tool Description" | | Copy and paste |
| #Series number | *Enter Practice Abstract number* or other series number | | Copy and paste |
| #Page range | For all relevant tools, not just PA's and other series! | | Copy and paste or if "Not applicable", do not enter anything. |

# Tool description for the Organic Farm Knowledge platform

| | | | |
|---|---|---|---|
| | Enter first and last page (with a hyphen in between) or "Not applicable" (for websites, videos etc.) | | |
| Online at | Enter link to tool.<br>*If practice abstract, do not enter link.* | | Enter link to tool (copy and paste).<br>If practice abstract, enter "http://orgprints.org/xxxxx" , where "xxxxx" is the eprint id (can be seen at top as [#xxxxx])<br>If video, a link to the youtube video must be entered. |
| #Accessed on date | If web product, enter date it was accessed. If not, leave empty | | Copy if relevant |
| Issuing organisation details | Name(s) of issuing organisation(s) &<br>Website (be sure to start with www. or http:// otherwise it will not be shown as a link on the platform).<br>Do not enter country of issuing organisation | | Copy and paste |
| Country | Enter country of issuing organisation | | Enter relevant country |
| What problem does the tool address | 1-2 sentences | | Copy and paste |
| What solution does the tool offer? | 1-2 sentences | | Copy and paste |

# Tool description for the Organic Farm Knowledge platform

| | | | |
|---|---|---|---|
| Description (Summary) | Max. 1000 characters, describing briefly:<br>- the purpose of the tool and which solutions it provides, giving 1-2 key recommendations<br>- the type of tool and how it works<br>- the target group of the tool (new/converted farmers, experienced farmers, advisors etc.)<br>- if the tool is specific for organic farming or not only<br>- relevant/ specific location where the tools can be used<br>- other specificities of the tool | | Copy and paste |
| #Description in another language | If original language is not English | | Copy and paste |
| Teaser | Catchy sentence about what you can achieve with the tool, max. 10 words | | Copy and paste |
| Tool type | Choose only ONE type! Only choose the type of the tool itself. E.g. a website containing several videos and leaflets, is of type "web", not video or leaflet. | ☐Calculation tools<br>☐Leaflets & guidelines<br>☐Practice abstracts<br>☐Books & reports<br>☐Video<br>☐Audio<br>☐Web<br>☐Online courses | Tick relevant box<br>If "other type" Write type in free-text box |

# Tool description for the Organic Farm Knowledge platform

| | | | |
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| | | ☐Other type of tool - Write type: _____ | |
| ID for OK-Net selection | | | oknet<br>**It is very important to enter this exactly as shown (no capital letters, no spaces), otherwise the tool will not appear on the knowledge platform!** |
| #Related links = URL for more information | If relevant, you may add a link to e.g. a relevant website other than the link to the tool or the issuing organisation. | | Put the link to the tool in organic-farmknowledge.org. Copy and paste the link for the issuing organisation (from "Issuing organisation details). If relevant, add link to e.g. a relevant website other than the link to the tool or the issuing organisation.<br>After publishing the tool, the person who posts the tool on social media needs to also add the Facebook and Twitter link to this entry. |
| Additional publication information | | | If relevant, add text |
| Comments and suggestions | | | Usually not relevant to add text |
| | | | |
| Keywords Agrovoc | | Leave blank. | Highlight the relevant **keywords** for your entry in the table "Themes agrovoc keywords" found on the last page of this form. It is not necessary to select themes/sub/sub-subthemes as these are automatically selected via keywords – they are there to inform you where the tool will be associated on the platform. |

# Tool description for the Organic Farm Knowledge platform

| | | | |
|---|---|---|---|
| Subject area | | | **Choose a few (2-3) relevant Organic E-prints subjects – do not try to add everything that is mentioned in the tool, just the specific topics.** |
| Affiliation | | | Choose **relevant project affiliation, e.g. OK-Net EcoFeed**.<br>**Further affiliations, such as issuing organisation, should be added after the eprint is online, in order to avoid other national editors uploading tools without our check** |
| Upload – add document | | | If file: click "Browse", choose your file, click "Open"<br>If website: click the tab "From URL". Paste URL and click "Upload".<br>If video: add URL from redirect-programme. Add the text "YouTube-video" in the field "Other content or format information". |
| Access rights | Indicate whether there is open access to the tool. Normally, we do not include tools that do not have Open Access; however, access may be restricted in Organic E-prints as long as there is a link with open access.<br>Add explanation of conditions in case of restricted access e.g. if temporary for how long? | ☐"Open access"<br>☐"Restricted access"<br>If restricted, conditions: _____ | If access is not restricted, you do not need to do anything.<br>If access is restricted: Click "show options" in upload sheet. For "Visible to", choose [Depositor and staff only] in case of restricted access. If restriction is temporary, enter "Embargo expiry date". |
| Cover image | | | Practice tools of the types "Calculation tools", "Leaflets & guidelines", "Books & reports" and |

# Tool description for the Organic Farm Knowledge platform

| | | | |
|---|---|---|---|
| | | | "Web" are required to have a cover image connected to it. |
| #FP7 projects | If the tool is an output from an FP7 or H2020 project, enter Grant Agreement Number. | | If the tool is an output from an FP7 or H2020 project, click "Yes" and enter Grant Agreement Number. Choose access (only if restrictions apply).<br>If the tool is NOT an output form an FP7 project, skip to the next page. This will NOT affect access defined in previous tab. |
| Deposit permission | Declare whether you have obtained the permission of the tool owner to deposit in Organic E-prints, see "Tool deposit agreement" next page. | | Click "Deposit Item now" ONLY if you are sure, Organic Farm Knowledge has the right to put the tool online. If not, click "save for later" and clarify rights. |
| Social media | After the tool has been published, the Organic Farm Knowledge link of the tool needs to be posted to Facebook and Twitter with the appropriate mentions (always @ the relevant project and the partner(s) who provided the tool) and relevant hashtags, e.g. #organicfeed #organicpigs | | The links to these posts then needs to be added to the "related links" section on the respective Organic E-prints entry. |

# Tool description for the Organic Farm Knowledge platform

**Tool deposit agreement**

2021-05-31

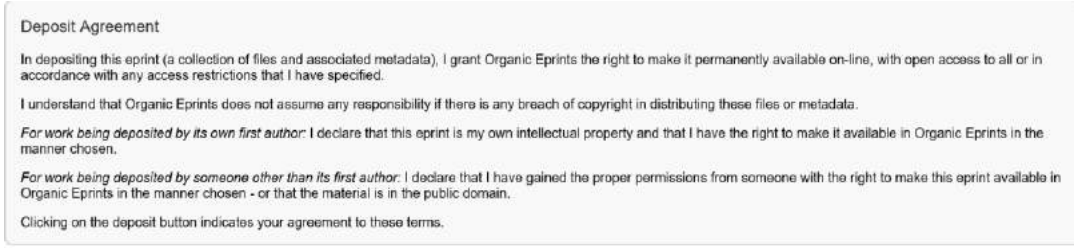
To whom it may concern [*if possible, direct it to a person*]

The OK-Net Ecofeed (Organic Knowledge Network Ecofeed) project under Horizon 2020 has created the knowledge platform organic-farmknowledge.org. On the platform, so-called "tools" – formatted knowledge in a form available to farmers and advisors – are collected that are relevant for organic arable farming. The tools are searchable, users can rate them and discuss them in a forum.

We have found your "tool" [*insert name of tool*] publicly available on the internet [*insert link to tool*], and would like to include it in our collection. In order to make it available on the knowledge platform, we need to deposit the tool on Organic Eprints.

The tool itself is not stored on the knowledge platform, only a link to where the tool can be found, see e.g. https://organic-farmknowledge.org/tool/30563. However, since Organic Eprints is an archive, the tool should be stored there and we would like your permission to do this.

This is the "Deposit agreement" from Organic Eprints:



Deposit Agreement

In depositing this eprint (a collection of files and associated metadata), I grant Organic Eprints the right to make it permanently available on-line, with open access to all or in accordance with any access restrictions that I have specified.

I understand that Organic Eprints does not assume any responsibility if there is any breach of copyright in distributing these files or metadata.

*For work being deposited by its own first author:* I declare that this eprint is my own intellectual property and that I have the right to make it available in Organic Eprints in the manner chosen.

*For work being deposited by someone other than its first author:* I declare that I have gained the proper permissions from someone with the right to make this eprint available in Organic Eprints in the manner chosen - or that the material is in the public domain.

Clicking on the deposit button indicates your agreement to these terms.

Please let us know whether you accept that we deposit your tool [*insert tool name*] in Organic Eprints and make it available on organic-farmknowledge.org platform.
We hope you have become interested in our knowledge platform and that you will try it and tell others about it.

Kind regards,
[*your name*]

# Tool description for the Organic Farm Knowledge platform

**Themes agrovoc keywords table**

| Theme | Sub-theme | Sub-sub-theme | Agrovoc keywords (highlight relevant keywords here) |
|---|---|---|---|
| Crop production | | | Crop production; Crop management |
| | Cropping systems | | Cropping systems; Diversification; Arable farming; Low input agriculture; Intercropping; Monoculture; Permaculture; Precision agriculture; Conservation tillage; Crop rotation; Agroforestry; Agropastoral systems; Climate-smart agriculture; Irrigation; Catch crops; Cover plants; Protected cultivation; Seedbed preparation; Direct sowing |
| | Arable crops | | Arable farming |
| | | Cereals | Cereal crops |
| | | Grain legumes | Legumes |
| | | Oilseeds | Oil crops |
| | | Forage | Roughage, Feed crops; Feeds; Grasses; Forage |
| | | Fibre crops | Fibre crops |
| | | Root crops | Root crops |
| | | Cover/catch crops | Catch crops; Cover plants |
| | Horticulture | | Horticulture |
| | | Vegetables | Vegetables; Herbaceous plants; Vegetable crops |
| | | Temperate fruits | Temperate fruits |
| | | Subtropical and tropical fruits | Subtropical and tropical fruits |
| | | Citrus fruits | Citrus |
| | | Grapes | Viticulture; Grapes |
| | | Olives | Olives |
| | | Nuts | Nut crops |
| | | Berries | Soft fruits |

# Tool description for the Organic Farm Knowledge platform

| Theme | Sub-theme | Sub-sub-theme | Agrovoc keywords (highlight relevant keywords here) |
|---|---|---|---|
| | | Ornamentals, flowers and trees | Ornamental plants; Floriculture; Woody plants |
| | | Protected cultivation | Greenhouse crops |
| | Weed management | | Plant protection; Weed control; Mechanical weed control; Annual weeds; Perennial weeds |
| | Pest and disease control | | Plant protection; Plant disease control; Disease Prevention; Diseases; Pest control; Integrated pest management; Biological control; Natural enemies; Disease tolerance; Tolerance to pests; Biological disease control; Copper |
| | Nutrient management | | Nutrient management; Green manures; Organic fertilizers; Plant nutrition; Nitrogen; Phosphorus; Nitrates; Potassium; Nutrient deficiencies; Nutrient cycling in ecosystems; Leaching; Ammonia; Composts; Fertilizers |
| | Seeds and breeding | | Seeds |
| | | Seed production | Seed production; Seed characteristics; Seed treatment |
| | | Seed quality | Seed quality; Seed storage; Genetic control; Germinability |
| | | Plant breeding and variety trials | Seed testing; Plant breeding; Selection criteria; Varieties; Genetic diversity (as resource); Genetic markers; Genetic resistance; Genetic resources; Genotypes; Germplasm; Breeding methods |
| | | Economics and regulation of organic seeds | Seed certification; Seed industry; Gene banks |
| | Grassland and forages | | Grassland management; Grasses; Grasslands; Grazing lands; Rangelands; Agropastoral systems |
| | Postharvest management | | Postharvest technology; Postharvest equipment; Handling; Postharvest physiology |
| Animal husbandry | | | Animal husbandry |
| | Production systems | | Animal production |

# Tool description for the Organic Farm Knowledge platform

| Theme | Sub-theme | Sub-sub-theme | Agrovoc keywords (highlight relevant keywords here) |
|---|---|---|---|
| | | Poultry | Poultry; Broiler chickens; Layer chicken; Ducks; Geese; Turkeys |
| | | Pigs | Swine; Barrows; Boars; Piglets; Sows; Weaning |
| | | Cattle | Cattle; Beef cattle; Dairy cattle; Heifers; Bulls; Calves |
| | | Aquaculture | Aquaculture |
| | | Apiculture and insects | Apiculture; Insect farming |
| | | Small ruminants | Small ruminants; Goats; Sheep; Guanacos |
| | Breeding and genetics | | Animal breeding; Animal genetics; Artificial insemination |
| | Feed and nutrition | | Feeding; Animal nutrition; Costs |
| | | Nutritive values and needs | Feed requirements; Feed composition; Nutritive value; Feeds; Feed crops; Feed conversion efficiency; Amino acids; Vitamins; Feed additives; Digestibility; Proteins; Insect farming; Feed formulations; Nutrient intake; Nutritional requirements |
| | | Ration planning | Ration planning; Feeds; Grazing; Feeding costs; Rations; Forage |
| | | Feed processing and handling | Feed processing; Feed quality; Feed technology |
| | Animal health and welfare | | Animal health; Animal welfare |
| | | Animal welfare | Animal protection; Transport of animals; Slaughtering |
| | | Animal housing and equipment | Animal housing; Animal husbandry equipment; Farm buildings |
| | | Veterinary medicine | Veterinary medicine; Homeopathy; Phytotherapy; Disease control; Disease prevention; Parasite control; Dairy hygiene; Meat hygiene |
| Soil | | | Soil |

# Tool description for the Organic Farm Knowledge platform

| Theme | Sub-theme | Sub-sub-theme | Agrovoc keywords (highlight relevant keywords here) |
|---|---|---|---|
| | Soil health and quality | | Soil quality; Soil organic matter; Organic matter; Humus; Nitrogen; Nitrogen fixation; Nutrient cycling; Nutrient deficiencies; Phosphorus; Soil compaction; Soil degradation; Soil fertility; Soil ph; Soil structure; Trace elements; Soil pollutants; Soil functions |
| | Soil biology | | Soil biology; Soil microorganisms; Soil flora; Soil fungi; Soil fauna; Earthworms |
| | Soil management | | Soil management; Soil conservation; Salinity control; Soil improvement; Tillage; Minimum tillage; Seedbed preparation; Integrated land management; Soil analysis; Soil fertility; Soil amendments; Soil water balance |
| Food chain management | | | Postharvest technology |
| | Processing | | Food processing; Processed products; Food technology; Byproducts |
| | Packaging | | Packaging; Packaging equipment |
| | Storage | | Storage; Storage equipment |
| | Transportation | | Transport; Transport safety; Transport of animals; Food traceability |
| | Food quality | | Food quality; Product quality; Food hygiene; Food traceability; Food inspection; Quality assurance |
| Environment and society | | | Environment; Society |
| | Biodiversity and nature conservation | | Biodiversity; Nature conservation; Ecosystem services; Pollinators; Natural enemies; Functional biodiversity; Life cycle assessment; Biodiversity conservation |
| | Environmental protection | | Environmental protection; Resource conservation; Environmental impact assessment; Pollution control; Waste management |
| | Climate change | | Climate change; Climate change adaptation; Climate-smart agriculture; Drought resistance; Heat tolerance; Disease tolerance; Tolerance to pests; Salt tolerance; Tolerance to heavy rainfall; Carbon sequestration; Emission reduction; Renewable energy; Environmental impact assessment; Sustainability; Life cycle assessment; Resilience |
| | Sustainable communities | | Sustainable livelihoods; Sustainable development; Socioeconomic development; Indigenous knowledge; Health foods; Recreation; Agrotourism; Food security; Cooperative farming; Agricultural organizations; Sustainability; Educational resources; Resilience |

# Tool description for the Organic Farm Knowledge platform

| Theme | Sub-theme | Sub-sub-theme | Agrovoc keywords (highlight relevant keywords here) |
|---|---|---|---|
| | Agroecological practices | | Agroecology; Sustainability; Ecological production; Agroecosystems |
| Farm management | | | Farm management; Monitoring and evaluation |
| | Capital and finance | | Farm economics (agricultural economics); Costs |
| | Farm technology and equipment | | Farm buildings; Farm equipment; Information technology; Digital technology; Measuring instruments |
| | People and skills | | Human resources management |
| | Marketing and agricultural trade | | Marketing; Agricultural trade |
| | Standards, regulations and certification | | Standards; Organic certification; Conversion factors |