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Erasmus + project APRENTISEM "Good practice guide for peer-to-peer learnings on farmers seeds" (2019-2022)

Coordination and report writing: Réseau Semences Paysannes (France)

Contributors: Red de Semillas (Spain) and Rete Semi Rurali (Italy)

Partners: Réseau Semences Paysannes, Rete Semi Rurali, Red de Semillas

Partner networks' member part of the project: Semeurs du Lodevois-Larzac, L'Odyssée d'Engrain, Mètis, Pétanielle, Biharko Lurraren Elkartea, Renova, Ecomercadet, Eixercolant, Las Refardes, Esporus, Palio del Grano

With the support of: Erasmus+



PRESENTATION OF THE ERASMUS + PROJECT APRENTISEM

APRENTISEM ("Good Practices for Farmers' Seed learnings") is part of a process initiated about twenty years ago by European networks, working for the promotion and development of cultivated biodiversity. This project aims to respond to a major challenge: the genetic erosion of cultivated varieties. This erosion largely comes from the disappearance of knowledge and know-how related to seed conservation on farms.

To meet this challenge, APRENTISEM's partners (Réseau Semences Paysannes, Red de Semillas, Rete Semi Rurali) are working in a comprehensive way with many farmers' organisations and small-scale seed producers to reclaim knowledge and knowhow on farmers' seeds. together, they gather nearly 150 organisations under the name of "Farmers' Seed Houses", forming local networks for conservation, multiplication, selection and dissemination of farmers' seeds, working on a large part of European food plants of various species.

APRENTISEM endeavoured to build an analysis of learning methods related to cultivated biodiversity existing within the partner organisations, especially by identifying good practices, which is the purpose of this guide.

FARMERS' SEEDS AND CULTIVATED BIODIVERSITY

The first agricultural societies domesticated most of the food species still cultivated today. Through migrations and seed exchanges, they adapted species and varieties to their different location. Through human selection and mechanisms of natural evolution, a great diversity has been constantly stirred up and renewed through the founding act of saving part of one's harvest for reseeding. This co-evolution between humans and plants has continued for thousands of years and has provided millions of varieties adapted to each territory: this is what we call today cultivated biodiversity.

From the 20th century onwards, industrialisation of agriculture caused a break in this multi-millennial co-evolution. Seeds, like

fertilisation, crop protection, know-how and technical standards, had to be produced outside of farms, with the goal of standardisation, for a general and massive industrialisation. It becomes a mean of bringing progress into farms by being associated, in a technological package, with chemical fertilisers and pesticides, exponential mechanisation, and the use of irrigation. This process dispossesses farmers in only a few generations of all the know-how on seeds and replaces hundreds of thousands of farmers' varieties with a few modern varieties resulting from "genetic progress".

LEARNING METHODS RELATED TO CULTIVATED BIODIVERSITY: AN INITIAL SYNTHETIC ASSESSMENT

Farmers' seeds call on a body of skills and specific know-how developing in a sustained relationship with agro-ecosystems. This reconstructed and evolving knowledge, closely linked to natural environments, but also to the expectations and uses (especially food) of local cultures. Indeed, as agrarian and climatic contexts have evolved considerably since the pre-industrial era, most of the traditional knowledge needs to be re-examined in the light of current production systems and local conditions, but also in that of recent scientific research findings. As climate change is having an increasing impact (early frosts, droughts, violent storms), there is an urgent need to produce new knowledge that can be directly applied on farms in order to adapt and reduce its effects.

Learning about cultivated biodiversity also includes social and relational skills: farmers' seeds' management involves collective organisation in more or less formalised horizontal exchange systems. Finally, this knowledge is most often transmitted orally and informally. It is therefore necessary to think about the transmission modes by taking into account these specificities.

APRENTISEM permited to think back on training and knowledge transmission actions, on their evaluation and on taking into account informal learning, particularly peer to peer learning. Nonformal and informal learning methods address some issues, specific to this sector in those three countries: limited access to

training, little or no offer in the formal system, little or no self-financing, complexity of learning objects, importance of the practical dimension and the contexts in which the profession is practised, empiricism. The peer to peer learning method is widely appreciated by farmers and artisanal seed producers in the three countries, because of its efficiency in terms of appropriation and dissemination of knowledge on cultivated biodiversity.

In an agro-ecological perspective, it also seems relevant to postulate a complementarity between modes of knowledge based on senses, affect and emotion, and those based on the abstract, the concept. Altieri¹ (2000, 2009) recommends establishing a dialogue between two knowledge systems, peasant knowledge and scientific knowledge from agronomy and ecology. However, pedagogical practice often faces difficulties in establishing a fruitful dialogue between farmers and scientists. Among identified avenues, peer-to-peer exchanges can also help free up farmers' voices in the presence of scientists and enable the latter to better adapt their discourse. Scientific mediation practices were also identified as a lever for promoting this dialogue.

The analysis of the pedagogical activities implemented in the APRENTISEM project, but also more broadly within the partner networks, allowed us to identify a series of pedagogical devices as well as a typology of pedagogical contexts. These teaching methods have been identified as particularly relevant and effective. They can be deployed in several learning contexts (non-formal education, support, awareness-raising) which can overlap in one activity. The tools presented in the rest of this guide are classified in one or more of these categories.

1. Informal education: this is a lifelong process, where each person acquires knowledge, skills, values, ... from daily experience, directly or indirectly. It is considered by the partners as one of the most effective learning contexts. In fact, informality is taken into account in several ways by the APRENTISEM partners, in particular through the use of animation tools aimed at fostering peer-topeer learning and horizontal exchanges ("edge of the field" meetings, animations to generate participation or empowerment...). This type of tool is highly valued and allows to introduce a beneficial informality in all other contexts. Informal learning forms a common base for all activities. Several reflections are underway in the partner networks to set up long training courses leaving large room to immersion on farms for optimal learning in work situation.



2. Non formal education: these are educational actions set up according to a target audience, with precise pedagogical goals based on the needs of the audience. Members of partner networks develop short training courses on many topics and on most crops. Some of these actions are part of professional training, meaning there are financed by dedicated mutual funds and subjected to quality standards, others are implemented as associative activities. These actions are often based on work situations, direct observation of plants and facilities on the farms (sorting, milling, baking equipment for example).



3. Coaching: in many projects aimed at preserving and renewing cultivated biodiversity, partner networks favour collective processes with facilitated participatory approaches (e.g. participatory breeding programmes). These processes include "action-training" periods where, after a transfer of knowledge and know-how (training stage), participants decide on an action plan (action stage). This stage enables knowledge and skills acquired to be put into practice and, if necessary, to be able to go back over what has not been acquired. It also allows learning through direct experience. These support processes make a large use of meetings, study trips, and meetings where peer to peer learning is also strongly involved. Finally, as this is a collective process, coaching is also an opportunity to develop learning on "soft skills" (active listening, autonomy, ability to work in a team, mediation, collective decision-making, etc.)



4. Awareness-raising: awareness-raising actions can be done within the educational systems and generate learning processes. Partner networks develop numerous awareness-raising materials, ranging from scientific and technical popularisation for professionals to materials for the general public. These materials, coupled with other tools (events, discovery workshops, farm visits), can encourage informal learning of values, knowledge specific to cultivated biodiversity and even gestures and tricks. This is particularly true for materials related to culinary skills, which are reviewed in this guide.

^{1.} Knowledge dialogue and learning in agroecology. The case of Bolivian indigenous farmers in training - Boujemaa Allali





WORK SITUATION: EXAMPLE OF LEARNING HOW TO BAKE PEASANT WHEAT

Learning context

The processing of flour into bread on the farm allows the farmer to generate a high added value to his production and to diversify by offering a high quality basic food product at an affordable price. Many project leaders and farmers in agro-ecology are heading towards selection, cultivation and processing of local wheat into flour and/or bread. In the last 20 years, the revival of farmers' straw cereal varieties is closely linked to the emergence of farmer-bakers who master a production cycle from "grain to bread".

However, the specificities of the baking qualities of peasant wheat and their processing on the farm call for a corpus of knowledge and practical know-how that is not presently widely available: methods of bread-making on farms differ significantly from those used in traditional bakeries.

Tool's description

The teaching method used is focused on a work situation. Training days are organised around the bread-making timeline in one or several farm bakeries. The rising time of the dough (punching, priming) is used to develop theoretical points of understanding in relation to the gestures. A farmer baker provides the supervision, supported by a facilitator who guarantees the quality of the interactions and the smooth running of the training. Depending on the artisan trainer's profile and training content, theoretical parts can be taken over by another trainer. Here is an example of a course organised around a classic sourdough bread-making method:

MORNING (3H30):

- & Display of the day's recipes with the times and start of kneading, transmission of simple gestures to understand the behaviour of different doughs during kneading and then the proofing and possible corrections;
- & Sensitive comparison of different baking qualities and specificities of species and varieties worked on and theoretical contribution on the main quality indicators of wheat;
- & Division, rounding, shaping: at the end of the proofing, practice of the moulding gestures: stage giving bread its final shape.

AFTERNOON (3H30)

- & Theoretical review of kneading, proofing, moulding: physicochemical reactions at work in connection with basic gestures (frasing, oxidation, glutens networks, etc.);
- & Putting in the oven: temperature control, practice of "scoring" (scarification of the bread before putting it in the oven) and gesture of the shovel to put the bread in the oven;
- & Unfolding: gesture of the shovel, sensory control of the baking, role of cooling;
- & Evaluation of knowledge transmitted during the session.

Over a day and a half and more, many different methods are possible: insertion of short practical exercises, especially around sourdough management (refreshed the day before, for example), lengthening of theoretical times (slow fermentation during the night), creation of two groups working in parallel to reduce the number of people (two bakeries simultaneously), tests with the trainees' own flour, study of breads made by the trainees, etc.

Setting the training period is always a challenging mater for multi-site training courses: it depends on the farmer-speaker's bakery days which determine the free slots at the bakeries.

As with any training course, schedule depends on the educational objectives that have been set: Be careful not to be too ambitious, otherwise some subjects will be skimmed over or not addressed at all.

The trainer, in his role as facilitator, may have to provide logistical support to the farmer-baker involved at certain times: heating the oven, preparing moulds (flouring, greasing, etc.), managing refreshments.... Raw materials consumed for the training (wood, flour) have a cost that must be taken into account.

As this is a short training rarely exceeding two and a half days, relevance in terms of transmission also comes from the quality of interactions between participants. In addition, work situations lead to a more individualised follow-up of trainees. Facilitation should play a major role in encouraging exchanges between peers by allowing more advanced trainees to share their knowledge and know-how with more junior ones. This works especially well on learning basic skills.

As this is a training course in the workplace, a set up time is necessary beforehand, in particular to get to grips with work tool and to take into account the various constraints (space, availability, small equipment, etc.). Ideally, the host farmer-baker is also the trainer for greater logistical fluidity.

Practical information for the trainer



Preparation

Co-construction of the course with the intervening farmer-baker, possible construction of the theoretical contents (D-60), design of a leaflet and distribution (D-30), management of registrations, on site animation (D), training evaluation.



Financing

Professional training funds, individual fee.



Group size

A maximum of ten people (to adjust according to space available in the bakeries, duration and the sequence of the training). For example, for a session with 15 people, 2 different bakeries for the constitution of smaller groups (7-8 people) allow a quality work situation for participants.



Location

On a farmer's farm. A room should be available for the theoretical presentations.



Duration

1 to 3 days.

Perspectives/other examples

Many members of Réseau Semences Paysannes are developing <u>training courses on baking</u>, focusing on practical situations. Among them, Triptolème offers a training course entitled <u>"Wheat and Farmers: from seeds to bread »</u>, which lasts 7 days and takes place in several bakeries. The training concludes with a day of bread-making in autonomy and in a bakery.

This pedagogical device inspires another training course, this time long, developed by another member of the Réseau Semences Paysannes, ABDEA. This is a general training course called <u>« Stage paysan Créatif »</u> (Creative Farmer Internship) aimed at putting into practice a local agricultural installation project. Over a period of approximately 11 months, 70% of the time is spent in a work situation on one or more farms in the future installation area. Learning of technical agricultural skills is done through day-to-day work on farms and through the support and sharing of the "tutor farmers" of the hosting farm. This learning is completed by collective training days (management of the installation project, entrepreneurial skills). This type of on-the-job training for installation has been developing for some years in France, particularly to supplement agricultural degree courses (formal education), which are not very focused on learning technical skills.

CONTACTS

Plusieurs membres du Réseau Semences Paysannes proposent cet accompagnement. Pour en savoir plus, contactez :





TRADITIONAL KNOW-HOW AND LOCAL WHEAT: THE EXAMPLE OF "CUMPARETE", A COMMUNITY PROCESS IN A RURAL AREA **IN ITALY**

Learning context

Cilento is a marginal and desertified rural area in the province of Salerno, Campania, whose agrarian system is based on cereal and pastoral production. A local informal group, called "Cumparete", is developing actions to mobilise and transmit know-how around cereal biodiversity based on sharing and reciprocity. It organises various educational activities for young people aimed at learning skills specific to the cultivation of local wheat, milling, bread-making and pasta-making techniques. One of Cumparete's objectives is to revitalise local economy by promoting these traditional skills, in order to fight rural exodus, the population aging and the lack of self-esteem. To achieve this, Cumparete has developed several tools: a wheat library where 80 local varieties are preserved, a traditional annual harvest event called Palio del Grano, and local activities to create a chain from seed to plate. In addition to learning technical skills needed to enhance value of local wheat, transmission also involves a strong set of values stricturing the collective: self-esteem, reciprocity, mutualism, and technical criticism.

Tool's description

The collective was founded more than 15 years ago to organise a traditional harvest festival which had disappeared, the Palio del Grano. This festival is a manual wheat harvesting competition between different neighbourhoods in a dedicated field. Beforehand there is another participative event, called "Camp di Grano", to prepare the harvest festival. This participative workcamp is a great moment for informal transmission of know-how between generations. The "Palio del Grano" is the high point and the sounding board for the work carried out throughout the year by Cumparete. It served as a catalyst to bring together other actors to form a wider network. This network includes farmers, citizens, millers, pastry-makers, bakers and retailers. There are also more regional and even national structures such as Slow Food and Rete Semi Rurali which have an external facilitation and support role. As an example, the dynamic has allowed the creation of a small cooperative Terre di Resilienza ("Land of Resilience"), which has renovated a building in the village of Caselle in Pittari and created a mill. This structure produces flour from the peasant wheat grown by some 24 farmers in Cumparete. The most recent commitment of the collective is the "Monte Frumentario" initiative. The idea is to create a network contract that offers a formal space to craftspeople and companies members of Cumparete.

Rules guiding Cumparete's members and the projects they carry out are based on the principle of reciprocity, which reefers to the local tradition of "cumparage" (brotherhood). Traditionally, this strategy was a way to broaden the horizon of a single rural family by linking it with people from other neighbouring villages. The same principle underlies the collaborative economic model promoted by the group, which encourages capacity building in a noncompetitive manner.



Cumparete involves different actors at the local level who have the common objective of building an economy based on sharing and not on competition. About ten local companies are part of the network related to cereal growing. Strong traditional knowledge allows a direct interaction between innovation and tradition. The key element for the sustainability of the initiative is the presence of a facilitator who builds and manages relationships between each different actor.

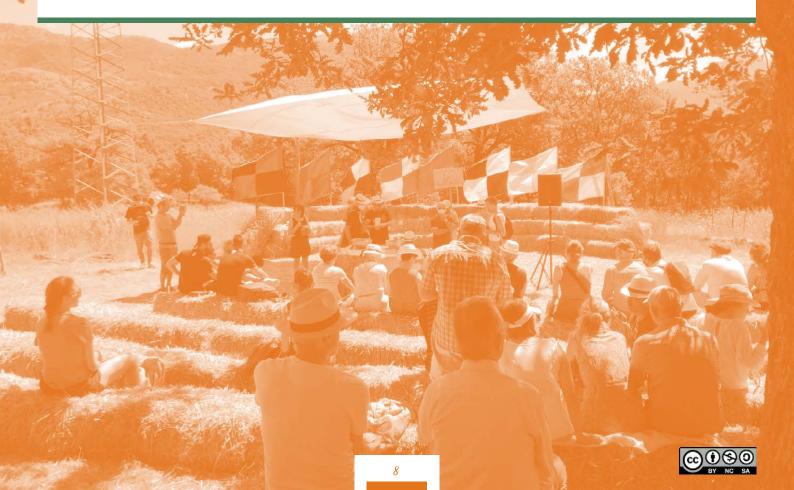


Perspectives/other examples

The founders of the group are part of the first generation who were able to graduate and decided to return to their native region, hoping to define the modern farmer figure by aiming to combine the barn with the library, the hoe with the computer, the word of mouth with the internet, the muscles with the brain. The group seeks to create a synergy between academic culture and local know-how, roots and social innovation, emphasising the relational aspect of knowledge and the social dimension of the local context.

CONTACTS

Rete Semi Rurali, Piazza Brunelleschi 8 - 50018 SCANDICCI (FI) - ITALY info@semirurali.net / https://rsr.bio/









TRANSMISSION OF CULINARY **KNOW-HOW AROUND CULTIVATED BIODIVERSITY**

Learning context

Several collectives, members of partner networks, are developing actions through the food and cooking approach to develop the use of farmer's seeds and to promote new products from cultivated biodiversity. These actions raise awareness among the general public and catering industry professionals about challenges of agro-ecology (reduction of distribution channels, seasonality, transition to a less meat-based diet, despecialisation and deconcentration of agricultural systems, energy transition and water management, etc.) and of cultivated biodiversity in particular (fight against genetic erosion, organoleptic and nutritional qualities of farmers' varieties, autonomy, hardiness and adaptation, etc.). These actions therefore aim to highlight the multiple links between production and consumption, links that have disappeared in the industrial food system. The aim is for eaters to reappropriate their food, in particular by developing specific culinary skills, but also by acquiring specific agricultural notions such as knowledge of different species of peasant varieties, their cultivation cycle and calendar.

Tool's Description

Most of collectives publish recipe cards, books or cooking videos featuring local varieties.

This is the case, for example, of the Associació de Varietats Locals, a member of Red de Semillas, which has linked farmers producing local varieties with chefs in Majorca to describe how to prepare an original recipe. This led to the production of 5 videos published throughout the year, depending of the seasonality of the product, in which a cook and a farmer presented the variety and a recipe in detail (for example, "Ramellet tomato marinated with white onion"). The association has also published a recipe calendar on its website.

Agrobio Périgord, association member of Réseau Semences Paysannes, has developed tools to promote population corn for human consumption. In addition to publishing a recipe book and recipe cards for the general public, the group has targeted the catering industry by developing six sweet and savoury corn-based recipes for professionals in this sector (e.g. Milhas with seasonal fruit). These recipe cards are part of a more global project to supply collective catering (particularly school canteens) with flour and semolina made from corn grown on a regional scale.

The Amap Auvergne-Rhône-Alpes network has also integrated a recipe tool into a project aimed at promoting local vegetable varieties (the Ampuis pepper, the Ain Roman squash, the Caluire black turnip, the Annonay early pea, etc.). Several market gardeners in the network have adopted these varieties. The association has published short films based on a meeting between a chef and a producer, real step by step recipe. It also distributes identity/recipe sheets and a Farmers' Seeds/How to Act sheet, developed with Réseau Semences Paysannes (for example, the materials on Caluire black turnip). These tools allow members of AMAP's communities to become aware of the matter but also to have recipes and tips for cooking those new varieties they received in their vegetable basket.

Some recipe books

- & De ceux qui sèment la cuisine, Laurence Dessimoulie, 2015, Editions Delpline Montalant
- & Du mais paysan dans mon assiette!, Agrobio Périgord, 2016, Edition de Terran
- & Le Tournesol Pop' dans nos assiettes, Laurence Dessimoulie, 2021, Editions Sud Ouest
- & Paysans, semeurs et éleveurs, Laurence Dessimoulie, 2017, **Editions Sud Ouest**

Overly sophisticated recipes can be an obstacle depending on the audience. The level of dissemination of these tools must be proportional to the level of access to the products concerned. Obviously, if a recipe sheet is about a product not available, it loses its value. These tools must therefore be targeted to have an impact (school canteen participants, members of an AMAP, etc.) and be integrated into a more global approach (project, support, etc.).



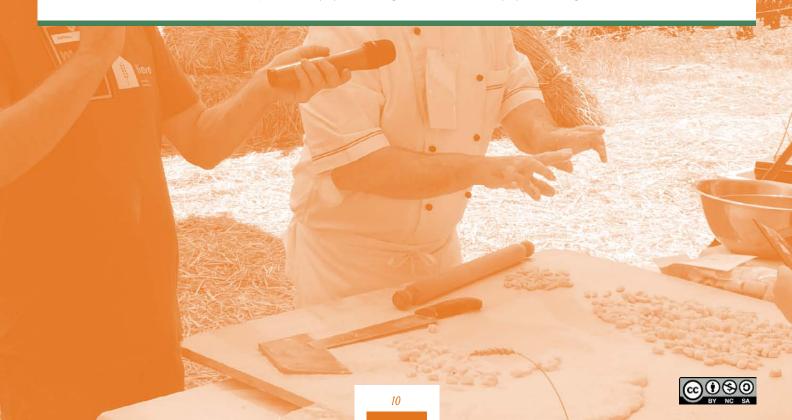
Perspectives / other examples

These tools can be advantageously coupled with practical workshops on cultivated biodiversity, especially tasting workshops. For example, a member of *Réseau Semences Paysannes* (Laurence Dessimoulie) runs tasting workshops for the general public in which she presents the history of the variety and the final product, including the recipe. These workshops can be held in the presence of the producers who grow the variety. Here is an example of one of her workshops where Laurence gives people the opportunity to taste three biscuits made with the same recipe but using three distinct flours from three different peasant wheats from different regions and different selection practices: a local wheat, *Barbu de Lacaune*, grown in its area of origin: Tarn (Southwest of France); a mixture of *Poulard* wheats grown in Brittany (Northwest of France); a dynamic population that grows on a farm in the Lot et Garonne (Southwest of France).

Eaters can be involved in an organoleptic evaluation of products from cultivated biodiversity and thus participate directly in varietal selection at a local level. This is the case in many participatory evaluation projects developed by APRENTISEM's partners where several tasting protocols can be deployed.

CONTACTS

Red estatal de Semillas "Resembrando e Intercambiando" – Coordinación Caracola del C.I.R. – Parque de San Jerónimo, s/n - 41015 Sevilla Móvil: 650 102 339 / Correo-e: correo@redsemillas.info / Web: www.redsemillas.info







WORKSHOP FOR BUILDING A COLLECTIVE AND PARTICIPATORY SELECTION STRATEGY

Learning context

Relocating plant breeding, the exchange and conservation of farmers' seeds within farmers' groups is a significant agroecological lever. This decentralised and collective selection method allows for fine-tuning of genetically heterogeneous and royalty-free varieties on each farm. With this method of selection and management varieties retain their adaptive capacity in the face of climate change. Collectively, it allows a more efficient selection due to multi-farm experimentation and to the various pooling that can be generated (maintenance of test plots, collective harvesting and threshing, storage, etc.).

In such a process, farmers' autonomy in their personal choices is central: they are the ones who choose the varieties they want to work with, and they are the ones who define their own selection criteria. The learning challenges for farmers are severalfold. In addition to specific technical skills and knowledge (agronomy, plant biology, population genetics, etc.), a collective organisation around breeding necessarily calls for human and social skills such as active listening, autonomy, ability to work within a team, mediation and adaptation.

Tool's description

It is a participatory workshop led by a facilitator over a minimum of half a day that places the farmer at the centre of the decision-making process. The outcome of the workshop is the development of a collective selection action plan. This workshop is the first step in a coaching process. The challenge for the facilitator is to take into account each farmer's criteria, which can be very diverse, especially in the case of different types of production. The facilitator must, for example, bring about a consensus on the common characteristics to be observed (for example, in the case of straw cereals, livestock farmers and bread wheat growers will have different objectives). The following is a brief outline of the process:

PHASE 1 OBJECTIVES/CONSTRAINTS

- **1.** Define objectives: Everyone expresses, reformulates and summarises their objectives. The facilitator gathers objectives by similarity. Open-ended questions can be added to this phase to increase everyone's reflexion about their practices and objectives: "Why are we interested in this objective?" "What am I already doing?
- **2.** Identify each person's constraint: Equipment, space for testing, time available. Also think about constraints such as data collec-

tion, access to seeds, reminder phone calls, funding for facilitator's time and farmers' time.

PHASE 2 PROTOCOL AND ACTION PLAN

- **3.** Choose varieties, varieties' distributing in the group, choice of a common control sample in the case of a trial with repetition². This phase should lead to a sowing plan for each member of the group as well as the list of people to contact to collect the seeds. These last points can be formalised after the workshop.
- **4.** Choose the measurements: what are we going to measure on the plants and how? (for example, ear's size or weight, earliness of flowering, plant's size, tolerance to diseases, to drought).
- **5.** Set a timetable for the next stage with key steps and allocate roles to each person: concerning seed exchange, sowing, return of forms, organisation of an observation or selection day, management and analysis of data, organisation of a day to discuss the results and a review of the year, organisation of threshing, etc.)
- 2. A replicate trial involves sowing the same control variety twice in a trial to estimate the impact of soil on observations. This control variety can be shared by several farms

One of the challenges is to take into account producers' limited time available, especially for the implementation of the action plan: working in small geographical areas, compensating producers for their time spent on collective tasks (maintaining a collection of several dozen varieties), prioritising a few periods of meetings during the year, taking into account the agricultural calendar, putting producers at the centre of these meetings in a peer-to-peer approach, and implementing a field-based pedagogy to make scientific and technical inputs, often hard to understand, more readable to producers, those are keys to encouraging farmers' involvement.

Concerning access to seeds, the history of modern varietal selection and seed marketing standards (e.g. National Catalogues) strongly constrain seed dissemination of population varieties. Beyond those available from genetic resource centres, local farmers' groups organising a dynamic management of several varieties are a meaningful and efficient horizontal dissemination channel. The facilitator can thus more easily search for seed lots according to needs, both in terms of weight (pods for micro plots of observation/pre-multiplication, larger lots to be multiplied, selection bouquet, etc.) and in terms of their origin (pure conservation varieties, strains selected for production, varietal mixtures, crosses, etc.). Moreover, as these seeds are the result of a dynamic management on farm, they carry a higher genetic diversity than accessions, which is an advantage in terms of adaptive selection.

Practical information for the trainer



Preparation

individual telephone interview to better understand expectations and needs before the training.



Financing

vocational training funds (insertion of the workshop in a wider training-action session), projects. This point is one of the constraints to be considered in the implementation of the actions.



Group size

about ten people. For a larger number of people, plan for facilitation that allows work in smaller groups.



Location

in a room, provide a paper-board to display the summary of the contributions at each stage of the workshop.



Duration

4 hours

Perspectives / other examples

This workshop can be combined with a field visit to make observations or selections, depending on the calendar. In this case, a one-day format should be planned.

The workshop can also be preceded by a time of theoretical contributions on the methodology of farmer wheat selection, on the principles of population genetics and quantitative genetics as well as on the evaluation's results of the response to selection (according to chosen criteria). A time can be dedicated to the climate change issue and to the levers available in terms of selection for the adaptation of peasant wheat. In this case, a one-day format should also be planned.

CONTACTS









"COLTIVIAMO LA DIVERSITÀ!" AN EXAMPLE OF A FARMER FIELD SCHOOL

Learning context

Originally designed to mitigate the nuisances induced by the "Green Revolution" in the peasant communities of the South, a farmer field school can be defined as a group learning process. It takes place directly in the fields and on the farms around days of meeting and training. Farmers carry out experiential learning activities that help them understand their agrosystems and more broadly their farming systems. These activities involve simple experiments, regular field observations and group analysis. The knowledge acquired from these activities enables participants to make their own locally based specific decisions about their agronomic practices. This approach represents a radical shift from previous popularization programmes, in which farmers were expected to adopt generalised recommendations made by specialists from outside the rural community. In contrast, the participatory dimension of farmer field school contributes to the collective autonomy of farmers.

Tool's description

Since 2013, Rete Semi Rurali (RSR) has established a valuable calendar of local and national on-farm meetings entitled "Coltiviamo la diversità!" (Let's cultivate diversity).

Local events are organised throughout the year according to the cultivation calendar of different species. Summer time is marked by the greatest number of local meetings on farms dedicated to different species (winter cereals but also corn, rice, sunflower, tomato). Some of these farms host trials in collaboration with the

In June, a national meeting is organised in Peccioli at the Floriddia farm where the RSR's living collection of peasant wheat is located. This farm also hosts experimental trials on mixtures and populations, and more recently trials on epigenetics and grain legumes. Finally, in autumn and spring, the RSR runs a "Seed Campaign" to promote and encourage cultivation and experimentation on farms of varieties and populations conserved in the Scandicci community seeds bank. This campaign reaches out to new farmers and creates opportunities for new encounters in years to come.

Points of attention

The seasonality of meetings, which follows the agricultural calendar and plant's growth, is both an educational asset and a constraint. For example, during summer, while it's a great time for the observation of many species, it also matches annual work peaks, which limits farmers participation.

A farmer field school process naturally involves one or more facilitators with specific role and skills. They support the learning process by helping the group to formulate its objectives, to define its orientations, to formulate its questions and the ways to answer them. The facilitator is the guarantor of the group's values and purpose. The facilitator's main tasks, which do not have to be cumulative, are:

- & Organise dissemination and design modes of transmission of knowledge, know-how and seeds. The facilitator contributes to collecting, centralising and capitalising on information, including the one related to varieties and knowledge emerging from the group;
- & Lead collective experiments, implement trial monitoring, analyse data and disseminate results;
- & Evaluate learning;
- & Manage external technical and scientific partnerships;
- & Facilitate the establishment of the network:
- & Enable and stimulate active participation;

& Facilitate decision making and facilitate organisational structuring (governance) where appropriate.

Facilitation therefore requires specific skills and know-how to encourage participation and collective intelligence: relational skills, sociability, great listening skills, autonomy, impartiality, public speaking, ease in speaking and writing, teamwork skills, mediation (ability to reformulate, translate, simplify), conflict management, adaptation, practicality... Facilitation also calls for a

practice of participatory facilitation, i.e. knowledge of facilitation tools, their implementation and the ability to choose the most appropriate methods according to the context and objectives.

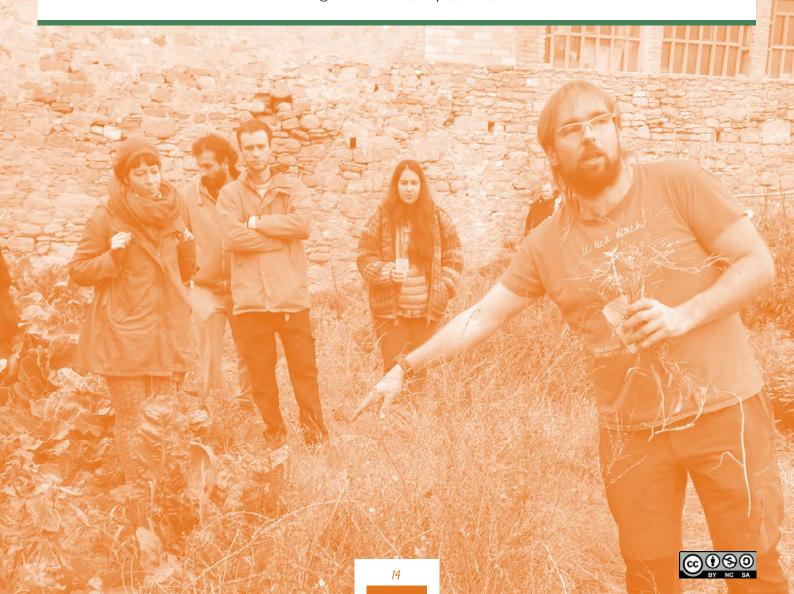
Perspectives / other examples

Over the years, "Coltiviamo la diversità" has opened up to other actors and has hosted thousands of farmers, artisan bakers, pasta makers and researchers from Italy and sometimes from all over Europe. This dialogue between different professions and disciplines proved to be very fruitful in the learning dynamics and contributed to the revitalisation of local cereal supply chains throughout Italy.

All the APRENTISEM partners organise peer-to-peer exchanges, often during workshops and discussions at the edge of the field or in a place on the farm, in order to face a real situation (cultivated field and its immediate environment, varietal trials, sorting line, etc.). This setting encourages exchange and knowledge transmission between farmers and very often leads to an informal case study allowing a global approach. When partnerships with research laboratories and technical institutes exist, these "field side" workshops are also a way of establishing a fruitful dialogue between two very distant knowledge systems, namely farmers' knowledge and scientific knowledge from genetics, agronomy and ecology.

CONTACTS

Rete Semi Rurali, Piazza Brunelleschi 8 - 50018 SCANDICCI (FI) - ITALY info@semirurali.net / https://rsr.bio/







RAISING AWARENESS OF CULTIVATED BIODIVERSITY THROUGH PLAY AND GARDEN

Learning context

The Associació de Varietats Local (Association of Local Varieties) is a non-profit organisation in Mallorca that works to safeguard local varieties of vegetables, legumes, cereals and fruit trees, as well as agricultural knowledge associated with them. It develops environmental education activities focused on cultivated biodiversity for young people and schools. This field of learning enables development of several skills, know-how and interpersonal skills in young people, especially through the creation of a garden that is both educational and nourishing: responsibility, time management, patience, creativity, plant care, notions of plant biology and agroecology, observation of living organisms, and taste for vegetables.

Tool's description

The objective is to train and raise the awareness of young participants of the value of cultivated biodiversity and peasant agroecology through the use of traditional varieties.

The awareness-raising campaign is based on the creation of an educational kit comprising 10 descriptive sheets of local varieties (with the information needed to be able to sow and consume them during the school year, as well as culinary information and a description) and 2 cultivation sheets from sowing to seed extraction. 3 seed packets of local varieties (Majorcan parsley, donkey's ear lettuce and purple carrot) are included in the kit. Interested schools can access the kit free of charge after registering before December and integrate it into an existing teaching sequence, in particular around the setting up of an agroecological garden.

A toy library on local varieties, with wooden materials is also available. It consists of a domino, a memory game, a "Three in a row" and a "Who is Who". It is also designed for extracurricular activities so that children can learn names of varieties while having fun.

Points of attention

Depending on their discipline, educational supervisors may need dedicated support for setting up and running the garden or for better integration of the theme into their educational sequence. This support is a guarantee of quality because it allows the "cultivated biodiversity" theme to be finely integrated into the existing

sequence and also to draw up an educational assessment at the end of the year.

It is relevant to target species and varieties whose cycle is in line with the school children's summer break.





Perspectives/other examples

Red Andaluza de Semillas is implementing a similar initiative called "Learn about cultivated biodiversity". It consists of sending participating leisure centres and schools a batch of seeds of 10 traditional varieties (5 autumn-winter and 5 spring-summer) and a guide with technical information on cultivation.

In exchange, participating centre or school undertakes to grow the varieties using ecological methods, to describe at least 4 varieties using a model sheet and to draw up a summary report on the agricultural season.

CONTACTS

Red estatal de Semillas "Resembrando e Intercambiando" — Coordinación Caracola del C.I.R. — Parque de San Jerónimo, s/n - 41015 Sevilla Móvil: 650 102 339 / Correo-e: correo@redsemillas.info / Web: www.redsemillas.info







DECISION-MAKING PROCESS: CONSENT

Learning context

Coaching a group of farmers on cultivated biodiversity requires specific skills and know-how. These fall within the scope of facilitation skills: interpersonal skills, sociability, great listening skills, autonomy, impartiality, public speaking, ease in speaking and writing, teamwork skills, mediation (ability to reformulate, translate, simplify), conflict management, adaptation, practicality... Facilitation also calls for participatory facilitation skills, knowledge of facilitation tools, their implementation and the ability to choose the most appropriate methods according to the context and objectives. Among them, tools that facilitate decision-making are crucial. Réseau Semences Paysannes has, for some years, implemented an inclusive and robust method called decision-making by consent.

Principle

Decision-making by consent is different from decision-making by consensus: in consensus everyone says "yes", in consent no one says "no". This implies that, when making a decision by consent, one does not look for the best solution but assumes that a good decision is one that respects the limits of those who will have to take it, and that does not compromise the organisation's ability to carry out its mission. Consent implies that a decision can only be taken when there are no longer any reasonable objections to it. As long as there are objections, the whole group is mobilised to improve the proposal. Thus, the objections reveal the limits with which the group will have to deal and therefore indicate the amount of freedom it has.

Here is the facilitation methodology. The participants form a circle and when the debate is mature, the facilitator leads the following steps:

1. FORMULATION AND CLARIFICATION OF THE PROPOSAL

One of the group members makes a proposal. It is not "his/her" proposal, but "a" proposal that takes into account the previous debates and that will allow the group to take a position. The facilitator writes it on a flip chart so that it is visible to everyone. The facilitator asks if there are any members of the group who need to clarify the proposal: simple questions of understanding. The proposal's bearer answers them as they come up.

2. REACTION AND AMENDMENT TO THE PROPOSAL

A round is held in which each participant gives his or her opinion on the proposal (opinion, feelings). The other participants listen in silence. After this round, the person who made the proposal can amend it according to what has been said.

3. COLLECTING OBJECTIONS

In the first round, members of the group take a position on the proposal: "it is acceptable" or "it is not acceptable". In this first round, the position is not made explicit. In a second round, those for whom the proposal is not acceptable explain the nature of their objection and make suggestions (counter-proposal, amendment, etc.).

All objections are legitimate, but not all are reasonable: an objection is reasonable if it is argued. Objections should not be seen as obstacles, but as an enrichment, a way to improve the decision.

4. IMPROVING THE PROPOSAL

This is the phase of enriching the initial proposal: people present use the suggestions heard in the previous phase to improve the initial proposal. The facilitator writes down the improvements.

5. FINAL PROPOSAL WRITING AND ACCEPTANCE

The facilitator or a member of the group formulates an improved proposal and writes it on the board.

The group goes round the table asking everyone if they agree with the proposal: "Is this acceptable to me?" Consenting to the proposal is equivalent to a commitment: "I am capable of carrying it and implementing it". If the proposal is not acceptable to some, we return to phase 3-4, until a proposal acceptable to all emerges.

Consent can sometimes prove to be blocking, especially in large assemblies where there is a disparity in the level of information and analysis of the participants. It is relevant to provide for an alternative decision-making process. Réseau Semences Paysannes provides in its governance the use of a 2/3 majority vote in cases where decision-making by consent gets bogged down. Unlike majority voting ("50% +1"), the 2/3 majority guarantees a wider validation of the decision in the group.

6. CELEBRATION OF THE DECISION AND EVALUATION OF THE PROCESS

Each person can say how he or she experienced the decision-making process (feelings), and then congratulate each other collectively on having succeeded in making the decision, thanking the others (for the proposal, for the objections that helped the group to move forward, for everyone's participation, etc.).

Points of attention

A key element in the success of the process, in addition to mastering the methodology, is the posture of each person: it is essential to place oneself in a cooperative posture, keeping in mind the general interest of the group.

The process of consent invites people to take a stand, to make a choice in complete sovereignty, which will encourage others to take a stand as well: it is the position of each person that allows them to evolve in their position and gradually create a common position. Consent therefore implies the empowerment of members who participate in the process. In this process, the path to get there is as important as the outcome.

Practical information for the facilitator



Préparation

Presenting the process to the group is essential for participants to be able to take part in the decision.

Clearly define the topic and the objective requiring the decision.



Matériel

Board to record the proposal.



Taille du groupe

No size limit.

The larger the group, the longer the process. Therefore, a lot of time is needed in a large group (e.g. 45 minutes for a group of 10 people).



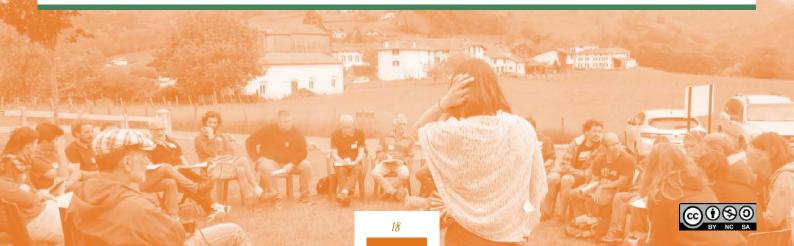
Lieu

The circle arrangement allows the whole group to see each other and facilitates active listening.

Perspectives/other examples

The assignment of people to their functions or the delegation of a task can also be done by consent. In this case, a second process is used, called "election without candidate", which by definition opens up a wide range of opportunities for the group, since initially it is possible to elect every member of the organisation. It allows the qualities required for the position to be highlighted and available human resources to be valued.

CONTACTS









PARTICIPATORY CHARACTERISATION OF TRADITIONAL VARIETIES: FARMER RESEARCHERS!

Learning context

For the past ten years, Red Andaluza de Semillas (RAS) has been implementing participatory projects to identify and describe the diversity of local varieties. Farmers are responsible for the technical description by setting up trials on their farms. They are accompanied by collective visits to the trials and technical training.

The general objective of the trials is to collectively generate all information needed to characterise targeted varieties. Trials are in fact considered as a "living educational support" for visits and training. They enable development of skills such as observation (precise recognition of morphological, phenological and agronomic characteristics, comparison, description of environments and cultivation practices, observation of interactions). Placed at the heart of the process, the farmers also acquire knowledge in terms of scientific methodology.

Tool's Description

This is often a multi-actor process, involving at least facilitators and farmers, which is implemented over at least one cropping season. It is important to note that farmers are involved in each decision. Here are the main stages:

- & Choice of farmer-researchers and agroecological farms where to set up trials,
- & Choice of varieties to be evaluated : This choice takes into account geographical origin of farmers' varieties, availability of seeds according to the size of trials, bibliography and existing characterisations. In participatory breeding projects, farmers choose the varieties to be tested,
- & Elaboration of descriptors : choice of descriptors to be evaluated, which may be morphological, agronomic, environmental, organoleptic, etc. Farmers' knowledge of varieties may also be collected (plant use, ethnobotany, interest of variety, etc.). A literature review can be conducted to guide choices,
- & Trial design: deployment in space and time (number of farms, number of observation campaigns, size of microplots, repetition). It is important to have a global approach of the farm when choosing the location of trials taking into account farmers' objectives.
- & Implementation, monitoring of trials, analysis of information: farmers implement trials according to the established protocol and carry out ratings. They have a technical file that carries

them in the process (protocol, list of varieties on the test bed, scoring sheet). They are visited at several times by the RAS technical staff for monitoring/training purposes. These visits can also be collective times of exchange between peers. Once ratings are completed, RAS facilitators collect the information and produce the analysis.

& Dissemination of results: in addition to publishing variety sheets³, RAS organises several information meetings to present the participatory work carried out around trials. The goal is to mobilise and train other farmers around these characterisation projects or, more broadly, participatory research.

Points of attention

Characterisation objectives lead to a multitude of descriptors that are sometimes not very relevant for farmers. Care must be taken to include farmers' concerns and questions in the protocol from a training-action perspective: this allows greater involvement of farmers in the process, which facilitates their learning of skills associated with data collection (observation, rigour, understanding of the protocol and the scientific approach). It is observed that the

https://www.redandaluzadesemillas.org/recursos/fichas-descriptivas-de-trigosandaluces-blandos-y-duros

level of participation influences the achievement of pedagogical objectives in the training and ultimately the quality of data.

Farmers should also be compensated for the time spent managing trials.

The process in brief

- **1.** Define location of trials and the varieties to be studied according to means available
- **2.** Choice of descriptors
- 3. Definition of the protocol
- 4. Implementation and monitoring
- **5.** Analysis of results and dissemination



Perspectives/other examples

APRENTISEM seed networks are all active in participatory research projects and develop similar methodologies. However, there are significant differences participation of farmers and facilitators vary depending on the projects institutional context. This is the case for certain more fundamental research projects led by research laboratories where networks are partners. The participation of seed networks is then more limited. The knowledge produced by research is then disseminated through transmission activities of different networks (training, technical days, peer meetings, etc.).

CONTACTS

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"FILIGRANE"(WATERMARK), A COOPERATION TOOL FOR LOCAL FOOD SYSTEMS

SENSIBILISATION

Learning context

In Italy, there is a growing interest in local varieties of cereals. These initiatives often emerge as a reaction to the crisis of marginal agricultural systems: they help maintain peasant agriculture in territories and fight rural exodus. Numerous artisanal chains based on traditional and local varieties are developing, especially in southern regions, bringing together producers of ancient cereals, millers, bakers, pastry-makers, central purchasing agencies and shops. Rete Semi Rurali accompanies these processes with the dual objective of preserving cultivated biodiversity and food justice. These are general interest objectives that necessarily lead to new modes of collective organisation, unlike a traditional sector that separates each different production act (grain, flour, bread). From a learning point of view, the challenge is therefore to increase participants' knowledge of the realities of each trade, to acquire transversal skills to be able to act collectively (interpersonal and relational skills as described in Tool 7 of this guide) and knowledge specific to the socio-economic analysis of food systems.

Tool Description

"Filigrane" is the generic name of the events organised by Rete Semi Rurali during winter periods. It has been created to facilitate development and qualitative consolidation of relationships between actors of the new local cereal chains. These actors are considered as a community of practice, a group of people who "share a concern or passion for something they do and learn to do it better by interacting regularly".

At these events, which are organised in concerned territories, topics of conservation and selection of local cereal varieties, harvesting, cleaning and storage, processing and marketing, as well as economic and ecological sustainability of the value chains are discussed. Other communities of practice and value chains are also invited to share experiences and feed off each other. Older initiatives can effectively share their experiences, especially by taking stock of past pitfalls.

One of the sub-objectives of the "Filigrane" events is to build new and equitable relationships between parties in order to contribute to the sustainability of those sectors. The question of allocation of added value and price setting is therefore central. There is also the question of financing the breeding and participatory research, which is essential for the renewal of cultivated biodiversity and peasant agro-ecology.

From the point of view of format and facilitation, "Filigrane" will

take place over two days and will focus on group work. The format is World Cafe style, where participants debate an issue or a topic in small groups around tables and then change tables at regular intervals to enrich conversations with ideas from previous rotations. Three thematic tables are set up: the first on grain management in the field, the second on seed and grain management through processing, and the third on social relations and the market. Each table has a dedicated facilitator who ensures the continuity of the discussion and the quality of the synthesis.



Multi-stakeholder meetings are based on continuous and iterative processes of mutual learning, in which the results come as much from the process (such as trust developed between participants) as from the final outputs. Therefore, carefully fostering relationships and exchanges is a key element in motivating and ensuring that everyone is aligned and clear on the commitments made. Days such as "Filigrane" can be followed by other meetings, including field visits, which allow participants to deepen exchanges and develop group dynamics.



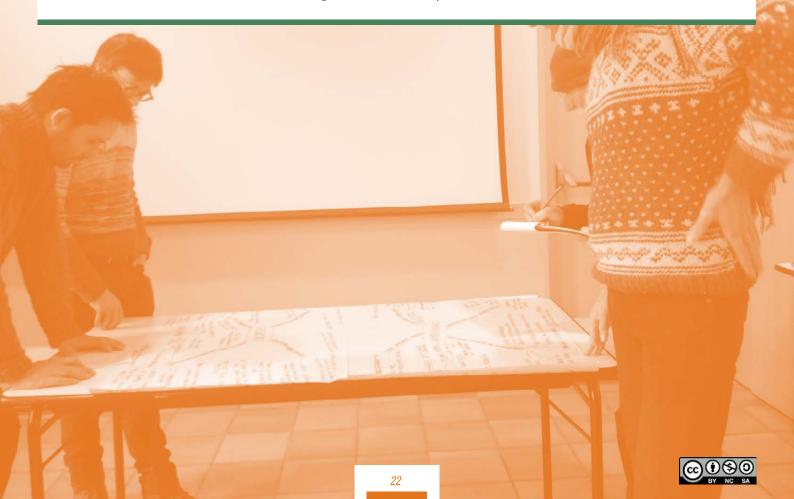
Perspectives/other examples

One of the original features of "Filigrane" events is active participation of people from civil society, who often enter into a circuit of acquiring skills and responsibilities within the community of practice, especially on facilitation tasks. The classic division between production and consumption is blurring, with "consumers" becoming protagonists in the chain.

In France, BioCivam de l'Aude and GAB 65 (both members of Réseau Semences Paysannes) are participating in a research-action project entitled "Accompanying the evolution of the skills of actors in local food chains to strengthen their sustainability: the case of cereals and associated rotations". This project aims to anticipate and support the development of skills in local cereal chains in order to strengthen their sustainability, as well as to accelerate, through sharing resources, the creation of a directory and self-training materials, and that of training modules and courses, dissemination and scaling up of initiatives. A dedicated website has been set up for dissemination (see for example the training page).

CONTACTS

Rete Semi Rurali, Piazza Brunelleschi 8 - 50018 SCANDICCI (FI) - ITALY info@semirurali.net / https://rsr.bio/





Our organisations

RÉSEAU SEMENCES PAYSANNES



The purpose of *Réseau Semences Paysannes* (RSP) is to gather and network actors of cultivated biodiversity in France in order to encourage dissemination of farms' seeds and associated know-how, and to develop and promote their dynamic management in farms and gardens. This social object is part of a group of initiatives and social movements that place people and living organisms at the centre of a common political objective: social and ecological agriculture anchored in territories. It brings together around 80 member organisations (national and local organic, biodynamic and peasant farming groups, associations for preservation of cultivated biodiversity, seed producers and NGOs).

https://www.semencespaysannes.org/

RED DE SEMILLAS



A technical, social and political organisation, *Red de Semillas* aims to bring together various local projects in Spain and to provide instruments for carrying out activities in the field of the preservation and use of agricultural biodiversity, helping to coordinate activities between various members and promoting their participation in national and international projects.

http://www.redsemillas.info/

RETE SEMI RURALI



Rete Semi Rurali (RSR) is the Italian network of farmers' seeds. It was founded in 2007 to strengthen and coordinate activities of existing associations involved in issues of seed systems and sustainable agriculture. The network is currently composed of 36 members. The RSR's commitment is to support farmers, at technical and institutional levels, in the creation and dissemination of organic, self-reliant and sustainable farming systems. RSR places seeds at the forefront of such a commitment, promoting the idea that every soil needs its own seeds, and that "alternative" agricultural models - such as organic or biodynamic agriculture - can only work if they are based on appropriate and specially adapted varieties.

https://rsr.bio/

TOOLS FOR LEARNING ABOUT CULTIVATED BIODIVERSITY

The genetic erosion of cultivated plants caused by more than a century of industrialisation of agriculture is worrying on several counts. The overwhelming majority of commercial varieties come from industrial breeding methods (pure lines, F1 hybrids, GMOs) and are not adapted to a sober agriculture that respects living organisms and produces healthy, high-quality food.

However, this process is reversible. The work carried out over the past 20 years by organisations promoting and renewing cultivated biodiversity in Europe has shown that this erosion could be stopped and that new varieties-populations adapted to agroecology could emerge and spread quickly. If it is still a question of finding and developing farmers' seeds adapted to current agroecological issues, it is still necessary to find, recompose and transmit knowledge and know-how associated with these seeds. The seed is not just a biological entity that allows reproduction of a plant. It is also the bearer of a historical memory, knowledge and know-how about what it can produce, how to cultivate it, how to select it, its intrinsic characteristics, its capacity to adapt to certain soil and climatic conditions....

This booklet is the result of the work of three organisations from France, Spain and Italy which came together in the Erasmus + project "Good Practices for Farmers' Seed Learning" (2019-2022). These organisations work in a comprehensive way with many farmers' organisations and small-scale seed producers in the reappropriation of knowledge and know-how around farmers' seeds. Between them, they regroup nearly 150 organisations under the name of "Community Seeds Bank", constituting local networks for the conservation, multiplication, selection and exchange of farmers' seeds on a significant part of European food plants of various species.

In this guide, we present some of the educational tools, devices and activities that have been identified as particularly relevant to the transmission of knowledge related to our topic. We hope that this booklet will provide farmers, seed growers, facilitators, coaches and others in the farming community with keys and practical examples for introducing more crop biodiversity into fields.

In conclusion, erosion of cultivated biodiversity is inseparable from the disappearance of the peasant world, a consequence of the industrialisation of agriculture which has imposed its capitalistic mode of development for more than a century now in Western Europe. Without peasants, there are no farmers' seeds. We call for a shift from the current productivist model to peasant agro-ecology: to achieve this, let us hope that millions of small farmers and stockbreeders, the only ones able to produce healthy food that respects the limits of our planet, will quickly set up.

Partners





























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