

## RDP analysis: Support to environment & climate change

# M10.2

## Genetic resources in agriculture

In 2015, the Contact Point of the European Network for Rural Development (ENRD CP) carried out a broad analysis of the 2014-2020 Rural Development Programmes (RDPs). The following text forms part of a series of summaries outlining the information gathered on specific Measures (M) and sub-Measures. The summaries aim to provide an overview of the common trends and main differences in the programming decisions taken across the range of RDPs. If you believe that any of the information presented does not accurately reflect the content of one of the RDPs, please communicate your concerns to [info@enrd.eu](mailto:info@enrd.eu).

Where specific RDPs are referenced in the analysis, they are indicated with the official EU country codes (e.g. EE for Estonia). In the case of regional RDPs, the name of the region is given after the country code (e.g. IT-Lazio).

### 1. Regulatory background

The sub-Measure 10.2 provides, “**support for conservation and sustainable use and development of genetic resources in agriculture**”.<sup>1</sup>

The support for genetic resources<sup>2</sup> concerns conservation initiatives both in agriculture and in forestry. These activities can be gene-preservation-oriented and can focus on research-like activities linked to genetic resources' protection.

Support under M10.2 can be provided to categories of beneficiaries that include and go beyond the ones identified as eligible under M10.1 - Payment for agri-environment-climate commitments. M10.2 beneficiaries also include national scientific institutions and research centres. The beneficiaries do not need to rear the farm animals, rather they must conserve and develop genetic resources<sup>3</sup>.

The activities foreseen for the conservation of genetic resources in agriculture and in forestry include the following<sup>4</sup>:

- a. **Targeted actions:** actions promoting the ‘in situ’ and ‘ex situ’ conservation, characterisation, collection and utilisation of genetic resources in agriculture and in forestry, including web-based inventories of genetic resources currently conserved in situ, including on-farm or on-forest holding conservation, and of ex situ collections and databases;

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<sup>1</sup> Reg. (EU) No 808/2014 Part 5

<sup>2</sup> Reg. (EU) No 1305-2013 Art.28.9

<sup>3</sup> EU Commission Measure guidance on Art. 28 Reg. (EU) No 1305-2013

<sup>4</sup> Delegated Regulation (EU) No 807/2014 Art. 8

- b. Concerted actions:** actions promoting the exchange of information for the conservation, characterisation, collection and utilisation of genetic resources in EU agriculture or forestry, among competent organisations in the Member States (MS);
- c. Accompanying actions:** information, dissemination and advisory actions involving non-governmental organisations and other relevant stakeholders, training courses and preparation of technical reports.

**In situ** conservation actions take place **in natural areas and/or on farms** and aim at preserving and promoting genetic biodiversity in its natural habitat. **Ex situ** conservation relates to activities **undertaken by research institutes, labs, or other organisations** and aims at the conservation and/or development of genetic resources off-site (e.g. gene banks, breeding programmes)<sup>5</sup>.

The inclusion of sub-measure 10.2 in Rural Development Programmes is not compulsory.

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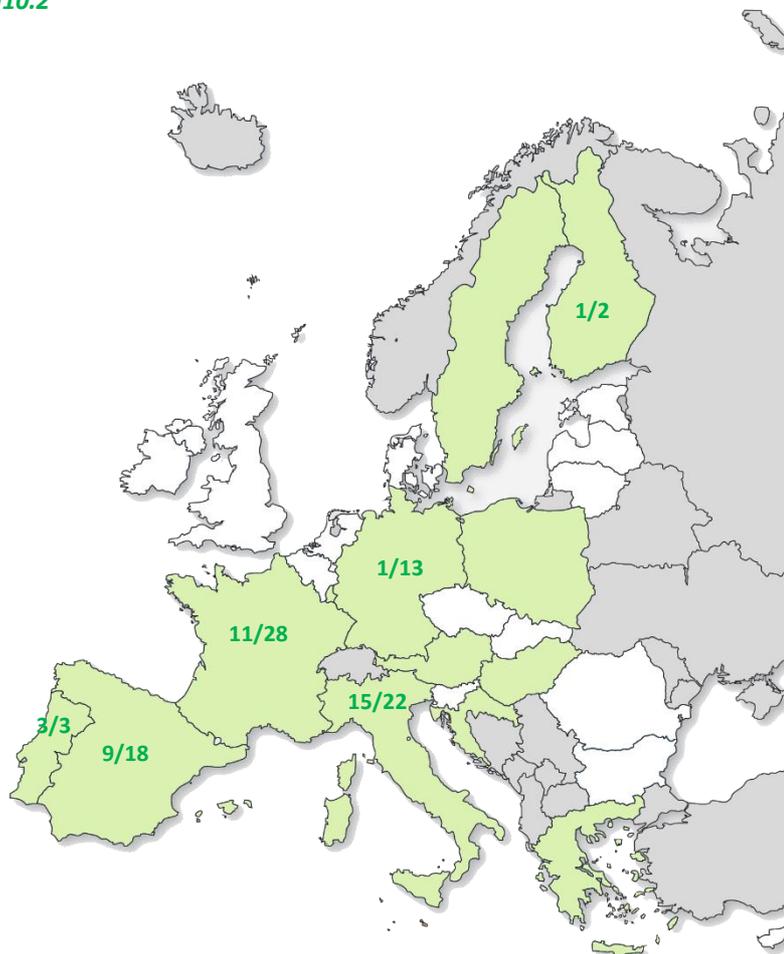
<sup>5</sup> Delegated Regulation (EU) No 807/2014 Art. 8

## 1. RDPs programming the sub-Measure

M10.2 is programmed in 48 RDPs across 14 MS.

Table 1 - List of RDPs programming M10.2

N	RDPs <sup>6</sup>
1	AT
2	DE-Sachsen-Anhalt
3	ES-Andalucia
4	ES-Asturias
5	ES-Cantabria
6	ES-Cataluna
7	ES-Extremadura
8	ES-Galicia
9	ES-I Canarias
10	ES-Murcia
11	ES-Navarra
12	FI-Mainland
13	FR-Alsace
14	FR-Aquitaine
15	FR-Auvergne
16	FR-Basse-Normandie
17	FR-Bourgogne
18	FR-Bretagne
19	FR-Ile-De-France
20	FR-Languedoc-Roussillon
21	FR-Midi-Pyrenees
22	FR-Poitou-Charentes
23	FR-Rhone-Alpes
24	GR
25	HR
26	HU
27	IT-Abruzzo
28	IT-Basilicata
29	IT-Campania
30	IT-Lazio
31	IT-Liguria
32	IT-Lombardia
33	IT-Marche
34	IT-Molise
35	IT-Piemonte
36	IT-Puglia
37	IT-Sardegna
38	IT-Sicilia
39	IT-Toscana
40	IT-Umbria
41	IT-Veneto
42	LU
43	MT
44	PL
45	PT-Acores
46	PT-Madeira
47	PT-Mainland
48	SE



Map 1 - RDPs programming M10.2

For MS with regional RDPs, the map indicates the number of RDPs that programmed M10.2 out of the national total.

<sup>6</sup> Belgium (BE); Germany (DE); Spain (ES); Finland (FI); Italy (IT); United Kingdom (UK).

## 2. Scope of RDP programmed activities

### Diversity of approaches

The analysis of M10.2 planned objectives shows that RDPs follow very diverse approaches ranging **from a pure biodiversity conservation rationale to the improvement of economic performance**. The objectives are often multiple and **combine different aspects** such as the need to adapt to climate change, to preserve biodiversity as a potential for innovation, to find locally performing breeds, etc<sup>7</sup>.

In the RDPs M10.2 normally includes one or two specific operations (sometimes a few actions are envisaged within one operation) and normally cover both in situ and ex situ genetic conservation.

Furthermore, several RDPs have defined the actions supported by M10.2 by clearly referring to the rules laid down in the Delegated Regulation (EU) No 807/2014 (e.g. IT-Basilicata, IT-Campania, IT-Marche, IT-Lombardia, MT). As mentioned in section 1 above, these include ‘targeted, concerted and accompanying action’.

### Animal genetic resources

In most of RDPs, operations funded under M10.2 relate to the **preservation of animal genetic resources**, most often through the conservation of specific/local/native livestock breeds, whether in decline or not (e.g. AT, DE-Sachsen Anhalt, ES-Andalucia, ES-Asturias, ES-Cantabria, ES-Cataluna, ES-Extremadura, ES-Canarias, ES-Murcia, ES-Navarra, FI, FR, GR, HR, HU, IT- National programme, IT-Lazio, IT-Lombardia, IT-Marche, IT-Molise, IT-Puglia, IT-Toscana, IT-Umbria, IT-Veneto, LU, MT, PL, PT-Acores, PT-Mainland, SE).

In Luxemburg, the operations target horse, bovine and ovine local species.

FR focuses on the conservation of poultry species in particular.

In all cases, **the RDPs define the targeted breeds** - or plant varieties - or refer to species of interest defined by other recognised/public entities (e.g. in Germany, the breed has to feature in the official endangered livestock breeds list).

Further cases are:

In AT, FI and DE, the objective is the conservation of **endangered animal breeds by supporting rearing** (conservation in situ) and other actions like **cryopreservation, gene banks and support to breeding programmes** (ex situ).

In ES-Navarra and in GR, the M10.2 aims to **support livestock breeders** to manage herd books, develop performance control programs, set up conservation plans and improve breed and genetic advice.

#### Case 1: Milk production

Some Spanish RDPs investing in the preservation of animal genetic resources focused specifically on **improving the milk output** performance of dairy cattle breeds adapted to extensive grazing systems (coastal and lower upland zones) also indirectly contributing to the maintenance of landscape characteristics and small-scale farm structures (e.g. in ES-Cantabria, and in a similar way in other Spanish regions).

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<sup>7</sup> See also case 2.

In most ES regions (Andalucia, Galicia, Extremadura), however, the M10.2-strategy is broader and includes notably the need for an inventory of plant varieties (in Andalucia), the need to prevent genetic erosion in general, and the need to identify and utilise relevant livestock breeds and resources that are compatible with specific regional conditions.

In GR, the monitoring and improvement of livestock productivity is also one of the goals for M10.2.

Similarly, in PT-Acores M10.2 clearly focuses on genetic improvement of livestock as a, “key strategy to increase milk and meat production, and increase the supply of healthy food in quantity and quality,” although the measure is reported to contribute to breeds officially recognised in herd books (e.g. the Azores Pony).

### Plant genetic resources

23 RDPs have also set up operations for the **protection of plant genetic resources**<sup>8</sup>. For example:

In four Italian RDPs (IT-Abruzzo, IT-Liguria, IT-Sicilia and IT-Piemonte), the operations target **plants exclusively**.

In DE-Sachsen Anhalt, the operation is unrelated to agriculture as it aims to stabilise the gene bank in the "Europa-Rosarium" of Sangerhausen, a botanical garden.

In IT-Liguria, the operation envisages actions related to crops of specific importance for regional agriculture, namely: fruit and vegetable growing; viticulture; flower growing and plants used for the production of medicines.

In IT-Lazio, an M10.2 operation offers support for the preservation of animal and plant resources in situ, by creating farms where these resources can be cultivated/bred. The purchase of animal and/or plant resources, as well as equipment, is eligible.

### Biodiversity

In Malta and Croatia, M10.2 aims at **genetic conservation on biodiversity grounds** and in view of the need for **agriculture to be able to adapt to climate change** as well as at genetic conservation’s potential for **improving the performance of agriculture**.

The overall objective in Croatia is to achieve global food safety, sustainable agriculture and biodiversity conservation.

In Malta, the justification for the use of M10.2 is the confined size and the past experience around introductions of new species/varieties which were, “to produce more and varied products,” but have led to a loss of local genotypes.

### M10.1 or 10.2?

It is noted that part of the objectives of M10.2 in relation to the conservation of genetic resources is sometimes indirectly attained by operations under M10.1, mostly through payments to breed and raise or grow local species of animals or plants. For more information, see section 3 – linkages to other Measures.

<sup>8</sup> AT, ES-Andalucia, ES-Cataluna, ES-Canarias, FI, HR, IT-Abruzzo, IT-Lazio, IT-Liguria, IT-Lombardia, IT-Marche, IT-Molise, IT-Piemonte, IT-Puglia, IT-Sicilia, IT-Toscana, IT-Umbria, IT-Veneto, MT, PL, PT-Madeira, PT-Mainland, DE-Sachsen Anhalt.

### 3. Contribution to Focus Areas and linkages with other Measures

**Contribution to FAs** M10.2 is mostly expected to contribute to Priority 4 - Restoring, preserving and enhancing ecosystems.

Several RDPs that have activated M10.2 provide information as to what priority/focus areas this is contributing to. In several cases, M10.2 contributes to Priority 4 and Focus Area 4A in particular (e.g. GR, IT-Basilicata).

**M10.1** As mentioned in section 2 above, in some RDPs, **M10.2 objectives in relation to the conservation of genetic resources are sometimes indirectly addressed as M10.1**. In fact, when the **activities take place at farm level (in situ)** and do not require specific breeding activities other than maintaining the existing genetic stock, one can contemplate whether funding through 10.1 is more appropriate. This is less of an issue for ex-situ conservation activities that usually target other beneficiaries, e.g. breeding institutes. In some RDPs therefore (e.g. FR, IT-Toscana, IT-Sardinia, SE), **in situ operations are found under 10.1, while 10.2 is dedicated to ex situ operations**.

In at least one case the linkages among M10.1 and M10.2 concern the criteria for project selection.

In AT, where the linkages between M10.2 and M10.1 are stronger than in most RDPs, the M10.2 'cultivation of rare crops' operation is only available to beneficiaries who also commit to the 'environmentally-friendly and biodiversity promoting management' M10.1 operations or to organic farmers.

#### Case 2: Beef Data and Genomics Programme in IE

Ireland supports its Beef Data and Genomics Programme (BDGP) under M10.1. It is considered within this report given its scope although the programme is neither about endangered breeds nor genetic resources in the meaning of 10.2. The BDGP, *"entails farmers undertaking a 6 year commitment to carry out a pre-defined set of actions designed to underpin the delivery of a more climate friendly suckler herd."*

The rationale for this new scheme is the potential of genetics to reduce GHG outputs. It requires participating farmers to record information about the performance of the herd and make decisions on the basis of collated herd data at national level. A range of associated environment benefits are highlighted (e.g. cows better suited to climate change adaptation, reduced replacement rates, etc).

It also includes the use of a "Carbon Navigator" enabling individual farmers to closely monitor their herd's CO<sub>2</sub> emissions, alongside other economic performance indicators, such as milk scores, health traits, docility, etc.

This is also an example of how genetic improvement objectives are sought together with productivity objectives.

#### Case 3: The FR National Framework and M10.1

The French National Framework under the support of M10.1 programmed two operations on the protection of threatened breeds and plant species.

There is the possibility that the French regions<sup>9</sup> did not use M10.2 because their genetic conservation objectives are fulfilled by M10.1 operations proposed in the French national framework.

Specific M10.2 operations do exist in the French national framework but these only focus on genetics in the poultry sector. All of the French regions that have used M10.2 are following this guideline and are protecting poultry breeds<sup>10</sup>.

#### Other cases

- In IT-Piemonte, the extent to which projects involve cooperation actions financed via M16 is included as a selection criterion.
- Similarly, in IT-Sicily projects ensuring continuity to the activities financed by the previous programming period or under M04.4 are given priority.
- In IT, FI and SE, M10.2 is implemented in the context of broader national strategies for biodiversity or genetic conservation. Sweden for instance refers to its national action plan for the sustainable management of Swedish livestock breeds 2010-2020. In Finland, M10.2 operations aim to contribute to the national genetic resources programme.
- Italy has also set out a national plan for agricultural biodiversity, which is partly implemented through M10.2. The Italian context for the current biodiversity loss and its associated genetic erosion is said to result from climate change, the introduction of non-native species as well as intensive agricultural and livestock practices. In the IT national programme, it is specified that breeding and genomic indices and reproduction management of livestock species would be assessed against a range of objectives: animal welfare, GHG emissions and biodiversity protection.

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<sup>9</sup> Except FR-Aquitaine.

<sup>10</sup> Except FR Midi-Pyrénées which is targeting ovine breeding exclusively.

## 4. Eligibility criteria and selection process

**Beneficiaries** In general (e.g. ES, FI, GR, FR, HU, IT, LU, MT, PT), beneficiaries of **in situ** operations are **farmers, managers of protected areas or other land or livestock managers** involved in projects for the conservation and recovery of local varieties/targeted species aiming to prevent genetic erosion and loss of agricultural biodiversity (e.g. FI, IT, ES).

**Ex situ** operations, instead, target **public and/or private conservation entities**, such as breeding associations, animal reproduction centres (e.g. ES, GR), genetic resources banks (e.g. FI), botanical gardens or natural parks (E.g. IT, ES), research and educational institutes (e.g. HR, IT), local governments (e.g. ES, IT), etc.

In some cases, and more particularly in some of the French regions, M10.2 has no specific target groups and beneficiaries across the whole RDP territory are eligible<sup>11</sup>.

### Case: M10.2 in the Italian national programme

In Italy, the national programme lays down a number of selection criteria that are not compulsory at regional level. In practice, some regions do not appear to apply any selection criteria (e.g. Puglia, Sardinia, Umbria) while others have mostly adopted the following criteria.

Some of these criteria are based on the national programme:

- coherence with the objectives of conserving biodiversity and improving genetic biodiversity;
- quality/uniqueness of the project proposal;
- priority given to breeds subject to abandonment or with high extinction risk;
- competence of beneficiaries/excellence; and
- cost-benefit analysis of the project, efficiency criteria;

Others were set by the regional programmes:

- involvement of Natura 2000 areas and/or organic farms;
- number of farms and local actors involved;
- partnerships involving public and private actors; and
- complementary activities as well as the potential to create new jobs.

### Other criteria

A number of interesting cases were identified:

- In some RDPs, selection criteria also include the **involvement of Nature 2000 areas or areas with environmental restrictions** (e.g. ES Canarias), and the **degree of threat** to the species considered (e.g. ES Murcia, PT, HR).
- In ES-Murcia the selection criteria include the extent to which the project will **promote the commercialisation of the genetic resources** as a key step on its conservation path.

<sup>11</sup> M10.2 in France, however, focuses on the poultry sector and as a consequence mostly beneficiaries from the poultry sector will be selected.

- In Malta, priority will be given to those project proposals including activities on **education, awareness raising and promotion**.
- In Portugal, selection criteria for plant genetic conservation will prioritise the improvement of **autumn-winter arable crop varieties** in particular.
- In a limited number of cases, a minimum threshold of animals concerned by the project applies to the eligibility criteria.

For example, in ES-Asturias, beneficiaries must engage a minimum of three animals to be eligible to the livestock conservation operation. In FR-Poitou-Charentes, the minimum threshold is of 50 hens for various species of chicken and the white goose, and 89 females for the conservation of the grey goose.

**Duration** The duration of the commitment period is not mentioned in most of the RDPs. Where available projects will last for around five years (e.g. FI and all FR regions).

## 5. Financial aspects

**Budget** The analysis identified very limited information on M10.2 financial aspects. Some examples include:

- ES-Cataluña, where the maximum amount per beneficiary is limited to €18 000/year.
- The French national framework, where the amount is also paid annually to beneficiaries as a lump sum of €17 000/year for poultry species that have not reached the critical size to be economically viable and of €5 500/year for poultry species threatened to be abandoned. The average cost calculations leading to these amounts are set out in detail in the national framework.