

The image shows the front cover of a report. The background is white with a large, abstract graphic on the left side consisting of a dark blue shape and a light green circle. The title is centered at the top in a bold, black, sans-serif font. Below the title, the date and location are given in a smaller, italicized font. In the center of the light green circle, the chair's name is written in a bold, italicized font. On the right side, there is a logo for the ERFP (European Regional Focal Point for Animal Genetic Resources), which features a stylized animal head in a square. Below the logo, the acronym 'ERFP' is written in large, bold, black letters, followed by its full name in a smaller font. At the bottom right, there is a logo for the Institut de l'Élevage (idele), which includes a stylized green and red graphic and the text 'INSTITUT DE L'ÉLEVAGE idele'.


**Meeting**  
***ERFP WG Documentation and  
Information of AnGR***  
*Toledo, 22 May 2023*

***Chair:  
Enrico Sturaro***

**ERFP**  
European Regional Focal Point  
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INSTITUT DE  
L'ÉLEVAGE **idele**

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## Key recommendation 1:

### 2.1.1.1 Improve the quality and frequency of updating EFABIS through close collaboration between National Coordinators, breeding organisations and gene banks.

Action	Indicator	Spatial dimension	Responsible actors
Regular updating and storage of breed related data in EFABIS/DAD-IS according to the FAIR principles	Annual updates of EFABIS and data completeness / EFABIS is fully compliant with FAIR principles	National/ European	National Coordinator/ ERFP WG Docu

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**Key recommendation 2:**

Increase the proportion of inventoried AnGR that are characterized and evaluated using genomic and phenotypic techniques, and – if appropriate – make characterization data publicly available.

Action	Indicator	Spatial dimension	Responsible actors
Promote genomic and phenotypic characterization, genetic evaluation, data exchange and facilitate stakeholder access	Validated methods and guidelines / Proportion of inventoried AnGR that are characterized and evaluated / Weblinks publicly accessible data	National/ European	EURC-EAB / Interbull/ Governments/ National Coordinators/ ERFP WG Docu/ Science

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**Key recommendation 3:**

Further develop and implement indicators to monitor the status of, trends in and threats to the conservation and sustainable use of AnGR.

Action	Indicator	Spatial dimension	Responsible actors
Implement SDG indicators 2.5.1 and 2.5.2	FAO indicators 2.5.1 and 2.5.2	National/ European/ Global	Governments/ National Coordinators/ ERFP WG Docu / ERFP WG Ex Situ/ ERFP WG In Situ
Review existing indicators, harmonise and implement relevant breed risk status indicators at European level	Report on relevant indicators to assess breed status, trends and threats	National/ European	EURC-EAB/ ERFP WG Docu/ National Coordinators/ Governments

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### Key recommendation 4:

Improve inter-operability of population and gene bank data with other relevant databases

Action	Indicator	Spatial dimension	Responsible actors
Assess needs, user perspectives, and develop API's for data exchange	Report on needs and perspectives to improve interoperability	National/ European	ERFP WG Docu/ ERFP WG In Situ/ ERFP WG Ex Situ/ FAO

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### Key recommendation 5:

Increase the number of studied traits to strengthen the characterization of livestock breeds, particularly local breeds, in their production environment.

Action	Indicator	Spatial dimension	Responsible actors
Gather relevant information on breed characteristics through interaction with breeders, and initiate scientific research to increase phenotyping efforts of traits less commonly assessed (adaptation, resilience, robustness).	Number of traits and completeness/quality of data collected from breeders / Published results of research on breed specific traits	National/ European	ERFP WG Docu/ ERFP WG In Situ/ Governments/ Science

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**Key recommendation 6:**

Boost the development and implementation of sustainable breeding programs, including pedigree and performance recording, genetic evaluation and maintenance of within-breed genetic variation for both transboundary and local breeds.

Action	Indicator	Spatial dimension	Responsible actors
Define sustainable breeding programs and propose methods and indicators for assessing breeding programs	Indicators and guidelines for implementing and assessing breeding programs	National /European	EURC-EAB/ Governments/ National Coordinators/ ERFP WG In Situ/ ERFP WG Docu / Interbull / EFFAB
Regular assessment of all breeding programs (local and transboundary breeds)	Number of officially recognized breeding programs assessed.	National / European	EURC-EAB/ Governments/ ERFP WG In Situ/ ERFP WG Docu Info/ Interbull/ EFFAB

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# DEVELOPMENT OF THE ERFP MYPOW FOR EX SITU CONSERVATION.

22<sup>TH</sup> MAY 2023.

Fernando Tejerina Ampudia, PhD. Chair of the WG Ex Situ Conservation.

ERFP Secretariat



GOBIERNO DE ESPAÑA  
MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN



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# 1. BACKGROUND.






ACTION PLAN

↕


ERFP MULTI-YEAR PROGRAM OF ACTION 2024-2028

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# 1. BACKGROUND.


- KEY RECOMMENDATIONS ON EX SITU CONSERVATION.
- KEY RECOMMENDATIONS ON INTEGRATION OF IN SITU & EX SITU CONSERVATION.
- KEY RECOMMENDATION ON SUSTAINABLE USE AND GENETIC IMPROVEMENT.

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## 2. KEY RECOMMENDATIONS ON EX SITU CONSERVATION.

1. Establish and maintain an official European inventory of all ex situ conservation facilities.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Get EUGENA officially recognised by the EU as the network and database for ex situ conservation facilities in Europe	Official recognition of EUGENA network	European	EUGENA/ ERFP WG Ex Situ / EURC-EAB/ Governments	YES
Make an inventory of ex situ in vivo collections	Ex situ in vivo collections inventory	European / National	EUGENA / Governments/ ERFP WG Ex Situ/ERFP WG In Situ??	YES


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## 2. KEY RECOMMENDATIONS ON EX SITU CONSERVATION.

2. Stimulate genebanks in Europe to ensure the long-term conservation of AnGR through core collections.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Promote establishment of core collections and regular updates of the material stored in the breeding programmes of all breeds	Number of breeding programmes which set core collections / SDG 2.5.1	National / European	National Coordinators/ National actors	NO
Fund the establishment of core collections for all relevant breeds	Number of breeds subsidized for ex situ conservation program	National	Governments	NO


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## 2. KEY RECOMMENDATIONS ON EX SITU CONSERVATION.

3. Promote specific derogations from national animal health regulations for material intended to be stored in gene banks, as well as for its use and distribution.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Develop guidelines to implement derogations in the national animal health regulations for genebanks	Published guidelines for animal health derogations	National / European	ERFP WG Ex Situ / EURC-EAB / NCA's	YES
Implement the derogations in the national animal health regulations	Number of countries implementing the derogation	National	Governments / National Coordinators/ NCA's	NO


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## 2. KEY RECOMMENDATIONS ON EX SITU CONSERVATION.


4. Develop and expand EUGENA, promote the enrolment of new countries and gene banks and implement quality management systems

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Encourage countries and genebanks to become member of EUGENA, the pan-European database of nationally recognized genebanks	Number of countries and breeds with information in EUGENA	European / National	EUGENA / ERFP WG Ex Situ / National Coordinators	YES
Promote implementation of QMS by gene banks and organise peer review system to benchmark genebank operations.	Number of genebanks which have implemented QMS	National / European	ERFP WG Ex Situ / National Coordinators	YES

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## 2. KEY RECOMMENDATIONS ON EX SITU CONSERVATION.

5. Initiate research on the development, standardization and implementation of new cryopreservation technologies that cover all types of genetic material and species.


ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Initiate scientific research collaboration and research projects on ex situ conservation	Publicly available, validated cryopreservation methods and guidelines / Number of projects funded	European / National	Governments / EU / Science / ERFP WG Ex Situ	YES

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## 3. OTHER ACTIVITIES ON EX SITU CONSERVATION FOR THE MYPOW.

- DATABASE SOFTWARE FOR GENE BANKS.
- EUGENA STEERING BOARD.
- SHARING KNOWLEDGE AND EXPERTISE IN RELATION WITH CRYOPRESERVATION PROTOCOLS BY SPECIES.
- SPREAD INFORMATION ABOUT EX SITU CONSERVATION AND EUGENA IN COLLABORATION WITH THE COMMUNICATION STRATEGY OF THE ERFP.



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<b>3. KEY RECOMMENDATIONS ON INTEGRATION OF IN SITU &amp; EX SITU CONSERVATION.</b>				
1. Develop and implement national strategies and action plans for integrated and complementary in situ and ex situ long term conservation strategies for AnGR, engaging all relevant public and private stakeholders in the process.				
ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Identify national strategies and action plans which include integrated and complementary in situ ex situ long term conservation strategies	Number of national strategies and action plans in Europe	National/ European	National Coordinators/ ERFP WG In Situ / ERFP WG Ex Situ	YES
Develop guidelines for better integration and complementarity of ex situ and in situ conservation strategies for the conservation of endangered breeds and the genetic diversity within those breeds	Guidelines for national strategies and action plans	National/ European	National Coordinators/ ERFP WG In Situ / ERFP WG Ex Situ	YES
Design and implement conservation and breeding programmes with the integration of in situ and ex situ activities.	Number of conservation and breeding programmes approved with both in situ and ex situ conservation activities	National	Governments/ National Coordinators/ National actors/ ERFP WG In Situ/ ERFP WG Ex Situ/ EURC-EAB	NO
Establish multi-stakeholder committee to oversee the implementation of the national strategy	Number of national multi-stakeholder committees and number of meetings	National	Governments/ National Coordinators/ National actors	NO

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<b>3. KEY RECOMMENDATIONS ON INTEGRATION OF IN SITU &amp; EX SITU CONSERVATION.</b>				
2. Promote and support initiatives and collaboration for in situ and ex situ conservation of transboundary breeds.				
ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Promote collaboration between actors to strengthen the conservation and breeding programs for transboundary breeds	List of actors and stakeholders for transboundary breeds / Number of coordination meetings	National/ European	ERFP WG In Situ/ ERFP WG Ex Situ/ ERFP WG Docu/ National Coordinators/ EURC-EAB/ National actors	YES
Develop and implement collaborative conservation and breeding programmes for each transboundary breed	Number of collaborative transboundary breed conservation and breeding programmes	National/ Transboundary	ERFP WG In Situ/ ERFP WG Ex Situ/ ERFP WG Docu/ National Coordinators/ EURC-EAB/ National actors	NO


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#### 4. KEY RECOMMENDATIONS ON SUSTAINABLE USE AND GENETIC IMPROVEMENT.

1. Boost the development and implementation of sustainable breeding programs, including pedigree and performance recording, genetic evaluation and maintenance of within-breed genetic variation for both transboundary and local breeds.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Define sustainable breeding programs and propose methods and indicators for assessing breeding programs	Indicators and guidelines for implementing and assessing breeding programs	National /European	EURC-EAB/ Governments/ National Coordinators/ ERFP WG In Situ/ ERFP WG Docu / Interbull / EFFAB/ <b>EX SITU?</b>	YES
Regular assessment of all breeding programs (local and transboundary breeds)	Number of officially recognized breeding programs assessed.	National / European	EURC-EAB/ Governments/ ERFP WG In Situ/ ERFP WG Docu Info/ Interbull/ EFFAB/ <b>EX SITU?</b>	YES

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# Meeting

## ERFP WG In situ Conservation and valorization of AnGR

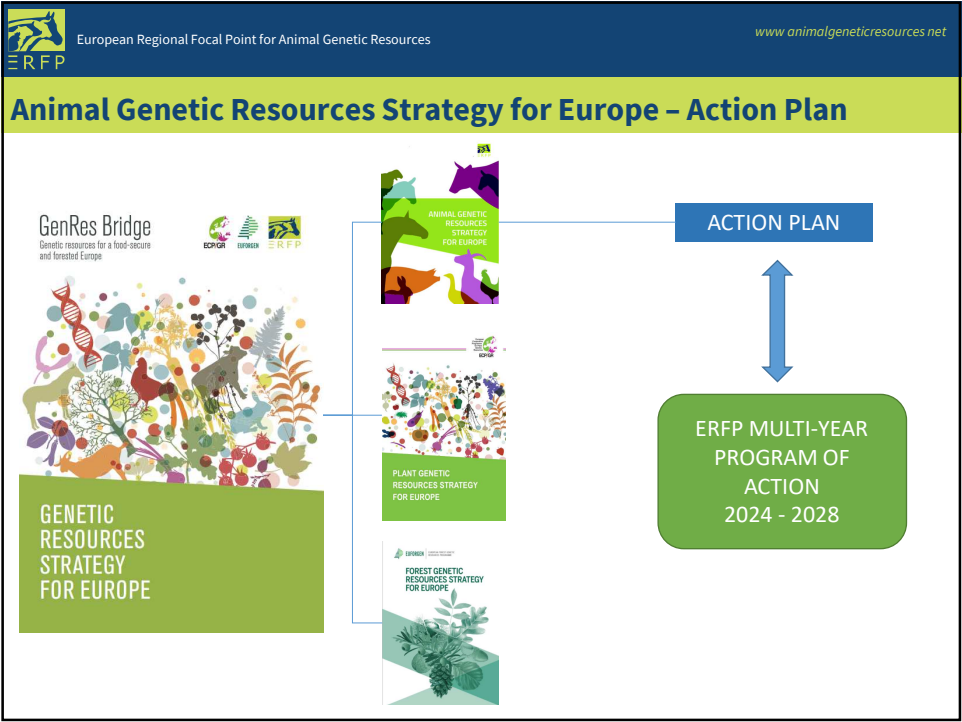
Toledo,22 May 2023

Chair:  
Danijela Bojkovski



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### MyPOW for *in situ* conservation – current state of the draft

6.1.-In-situ-Conservation¶

¶

Due to the importance of the *in-situ* conservation of AnGR within the GPA and efforts towards improvement of the *in-situ* conservation of AnGR in Europe, the Working Group *in-situ* conservation and valorisation of AnGR was established in 2018.¶

This Working Group will take up the recommendations of the AnGR strategy and other available outcomes (i.e. EU Preparatory Actions on plant and animal genetic resources in agriculture) to support countries in the implementation of *in-situ* measures and strategies related to AnGR conservation. Successful *in-situ* conservation requires a well-designed breeding program with emphasis on maintaining genetic diversity within the breed.¶

The collaboration with the ERC will be crucial and necessary to implement some activities such as the:¶

¶

-Review of the definitions, frameworks and *In-situ* conservation programs to explore support measures and initiatives related to niche markets, ark farms, management of landscapes and wildlife habitats, touristic activities and ecosystem services.¶

-Networking activities to identify, coordinate the main actors involved and strengthen cooperation and valorisation of AnGR and their products with steps for an European network of *in-situ* conservation in specific ecosystems¶

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Action Plan is developed and final approval is need from your side!!

Ad hoc group collect any comments, proposals today and 1 week after the end of this meeting!!

Number	Recommendation of AnGR Strategy	Chapter of AnGR Strategy	Action	Related Actions	Indicator	Spatial dimension	Responsible actors
2.1.1.1	Improve the quality and frequency of existing (FAIR) through close collaboration between national coordinators, breeding organizations and gene banks.	Monitoring / Characterisation	Regular updating and storage of breed related data in EFABIS/DAD-IS according to the FAIR principles		Annual updates of EFABIS and data completeness / EFABIS is fully compliant with FAIR principles	National/ European	National Coordinator/ ERFP WG Docu
2.1.2.1	Increase the proportion of inventoried AnGR that are phenotyped and evaluated using genomic and phenotypic information, and if appropriate - make characterisation data publicly available.	Monitoring / Characterisation	Initiate scientific research and collaboration that contributes to better characterization of genetic resources in Europe	2.1.2.2 & 2.1.5.1	Number of national/ EU funded research projects that include characterization of AnGR	National/ European	Governments/ National Coordinators/ Science/ EC
2.1.2.2	Increase the proportion of inventoried AnGR that are phenotyped and evaluated using genomic and phenotypic information, and if appropriate - make characterisation data publicly available.	Monitoring / Characterisation	Promote genomic and phenotypic characterization, genetic evaluation, data exchange and facilitate stakeholder access	2.1.2.1 & 2.1.5.1	Validated methods and guidelines / Proportion of inventoried AnGR that are characterized and evaluated / Weblinks publicly accessible data	National/ European	EURC-EAB / Interbull / Governments/ National Coordinators/ ERFP WG Docu/ Science
2.1.3.1	Further develop and implement strategies to monitor the status of breeds in and threats to the conservation and sustainable use of AnGR.	Monitoring / Characterisation	Implement SDG indicators 2.5.1 and 2.5.2		FAO indicators 2.5.1 and 2.5.2	National/ European/ Global	Governments/ National Coordinators/ ERFP WG Docu /
2.1.3.2	Further develop and implement strategies to monitor the status of breeds in and threats to the conservation and sustainable use of AnGR.	Monitoring / Characterisation	Review existing indicators, harmonize and implement relevant breed risk status indicators at European level		Report on relevant indicators to assess breed status, trends and threats	National/ European	EURC-EAB/ ERFP WG Docu/ National Coordinators/ Governments
2.1.4.1	Improve interoperability of livestock and gene bank data with other relevant databases.	Monitoring / Characterisation	Assess needs, user perspectives, and develop APIs for data exchange		Report on needs and perspectives to improve interoperability	National/ European	ERFP WG Docu/ ERFP WG In Situ ERFP WG Ex Situ FAO
2.1.5.1	Increase the number of studied breeds to strengthen the representation of breed diversity, particularly local breeds, in their production environments.	Monitoring / Characterisation	Gather relevant information on breed characteristics through interaction with breeders, and initiate scientific research to increase phenotyping efforts of traits less commonly assessed (adaptation, resilience, robustness).	2.1.2.1 & 2.1.2.2	Number of traits and completeness/quality of data collected from breeders / Published results of research on breed specific traits	National/ European	ERFP WG Docu/ ERFP WG In Situ Governments/ Science
2.2.1.1	Boost the development and implementation of sustainable breeding programs, including breeding, genetic evaluation and monitoring of selected genetic variation for each breed, transboundary and local breeds.	Sustainable use and genetic improvement	Define sustainable breeding programs and propose methods and indicators for assessing breeding programs	2.2.1.2 & 2.3.4.2	Indicators and guidelines for implementing and assessing breeding programs	National /European	EURC-EAB/ Governments/ National Coordinators/ ERFP WG In Situ ERFP WG Docu / Interbull / EFFAB

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Action plan – transform into the MyPOW for *In situ* (1)


In situ conservation

- Strengthen the European network for in situ conservation and management of local breeds at risk.
- Support breeders’ associations and farmers to implement breeding programs for local breeds at risk.
- Strengthen and promote the valorisation of AnGR-related ecosystem services (e.g. landscape conservation) and livestock products.
- Increase the breeders’ awareness of their role as key actors in the conservation of AnGR.
- Develop research towards better understanding of breed characteristics and features, in particular adaptation to specific ecosystems and farming systems.

Integrated Key recommendations (in situ & ex situ)

- Develop and implement national strategies and action plans for integrated and complementary in situ and ex situ long term conservation strategies for AnGR, engaging all relevant public and private stakeholders in the process.
- Promote and support initiatives and collaboration for in situ and ex situ conservation of transboundary breeds.

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### Key recommendation 1:

- Strengthen the European network for in situ conservation and management of local breeds at risk.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Review the current status of the Arca-Net network and further development of Arca-Net website portal	Number of Ark farms or other entities connected to the Arca-Net network	National/ European	National Coordinators / <span style="color: red;">ERFP</span> <span style="color: red;">WG In Situ</span> / National NGOs / SAVE Foundation	YES – more general
Identify relevant public and private actors and strengthen their roles to support the conservation and sustainable use of AnGR, in particular local breeds at risk	List of national actors	National	Governments / National Coordinators / <span style="color: red;">ERFP</span> <span style="color: red;">WG In Situ</span> / EURC-EAB	YES – need to be rephrased

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### Key recommendation 2:

- Support breeders' associations and farmers to implement breeding programs for local breeds at risk.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Define sustainable breeding programs and propose methods and indicators for assessing breeding programs of local breeds at risk.	Guidelines	National/ European	EURC-EAB / <span style="color: red;">ERFP</span> <span style="color: red;">WG In Situ</span> / <span style="color: red;">ERFP</span> <span style="color: red;">WG Ex Situ</span>	YES definitely
Provide subsidies for conservation and breeding programmes, to promote the integration of in situ and ex situ conservation, for local breeds at risk	Number of local breeds at risk that receive subsidies for their conservation and breeding programme, and information about the subsidies provided	National	Governments	??NO?? <b>YES</b> review subsidies/proposals

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### Key recommendation 3:

- Strengthen and promote the valorisation of AnGR-related ecosystem services (e.g. landscape conservation) and livestock products.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Develop initiatives with PGR and FGR community on ecosystem services and cross-links between domains and other connected policies	Number of initiatives (projects, common actions, papers)	European / national	ERFP <span style="color: red;">WG In Situ</span> / Governments / ECPGR / EUFORGEN	YES – really important
Promote (labelling of) local products from breeds in extensive/traditional production systems and associated ecosystem services	Number of labels or quality schemes linked to specific breeds - <span style="color: red;">refrase</span>	European / national	ERFP <span style="color: red;">WG In Situ</span> / National Coordinators/ Governments	YES – overview cases

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### Key recommendation 4:

- Increase the breeders' awareness of their role as key actors in the conservation of AnGR.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Empower breed societies and promote farmer and breeder participation in conservation and breeding programs	Number of initiatives that strengthen breed societies and breeders role in the conservation of AnGR	European / national	Governments / National Coordinators/ ERFP <span style="color: red;">WG In Situ</span> / <span style="color: red;">EURAC-EAB</span>	YES – organize workshops

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Key recommendation 5:

- Develop research towards better understanding of breed characteristics and features, in particular adaptation to specific ecosystems and farming systems.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Initiate research calls, specific research projects and other projects related to in situ conservation	Number of national and international research projects	European / national	Governments / National Coordinators/ Science/ ERFP	YES – <span style="color: red;">specify characterization</span>

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Key recommendation 1 for integrated *in situ* and ex situ:

- Develop and implement national strategies and action plans for integrated and complementary in situ and ex situ long term conservation strategies for AnGR, engaging all relevant public and private stakeholders in the process.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Design and implement conservation and breeding programmes with the integration of in situ and ex situ activities.	Number of conservation and breeding programmes approved with both in situ and ex situ conservation activities	National	Governments/ National Coordinators/ National actors/ ERFP <span style="color: red;">WG In Situ</span> / ERFP WG Ex Situ/ EURC-EAB	Need to be rephrased and included in the MyPOW
Develop guidelines for better integration and complementarity of ex situ and in situ conservation strategies for the conservation of endangered breeds and the genetic diversity within those breeds	Guidelines for national strategies and action plans	National	National Coordinators/ ERFP <span style="color: red;">WG In Situ</span> / ERFP WG Ex Situ	
Design and implement conservation and breeding programmes with the integration of in situ and ex situ activities.	Number of conservation and breeding programmes approved with both in situ and ex situ conservation activities	National	Governments/ National Coordinators/ National actors/ <span style="color: red;">ERFP WG In Situ</span> / ERFP WG Ex Situ/ EURC-EAB	

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Key recommendation 2 for integrated *in situ* and *ex situ*:

- Promote and support initiatives and collaboration for in situ and ex situ conservation of transboundary breeds.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Promote collaboration between actors to strengthen the conservation and breeding programs for transboundary breeds	List of actors and stakeholders for transboundary breeds / Number of coordination meetings	National/ European	ERFP WG In Situ/ ERFP WG Ex Situ/ ERFP WG Docu/ National Coordinators/ EURC-EAB/ National actors	??YES??
Develop and implement collaborative conservation and breeding programmes for each transboundary breed	Number of collaborative transboundary breed conservation and breeding programmes	National/ Transboundary	ERFP WG In Situ/ ERFP WG Ex Situ/ ERFP WG Docu/ National Coordinators/ EURC-EAB/ National actors	??YES??

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Key recommendation 1 for sustainable use and genetic improvement:

- Boost the development and implementation of sustainable breeding programs, including pedigree and performance recording, genetic evaluation and maintenance of within-breed genetic variation for both transboundary and local breeds.

ACTION	INDICATOR	SPATIAL DIMENSION	RESPONSIBLE ACTOR	MYPOW (YES/NOT)
Define sustainable breeding programs and propose methods implementing and indicators for assessing breeding programs	Indicators and guidelines for implementing and assessing breeding programs	National /European	EURC-EAB/ Governments/ National Coordinators/ ERFP <span style="color: red;">WG In Situ</span> / ERFP WG Docu / Interbull / EFFAB/EX SITU?	¿YES?
Regular assessment of all breeding programs (local and transboundary breeds)	Number of officially recognized breeding programs assessed.	National / European	EURC-EAB/ Governments/ ERFP <span style="color: red;">WG In Situ</span> / ERFP WG Docu Info/ Interbull/ EFFAB/EX SITU?	¿YES?

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**Conclusion from yesterday meeting:**

- By the end of next week all members will send comments and proposals
- We agreed which actions need to be included in the Action Plan
- Actions need to be rewritten