

Mrs. Ewa Sosin

Chair of the ex situ conservation working group.

Mr. Fernando Tejerina

Ex-Chair of the ex situ conservation working group (2018-2024)

Report of Ex situ conservation ERFP working group - - 2023/2024

1. Objectives of the group (Summary)

The three main aims of the ex situ conservation WG are:

1. To exchange experiences and knowledge between european countries on ex situ conservation strategies;
2. To support the establishment, further development, efficiency and effectiveness of national genebanks for AnGR
3. To develop the European Gene Bank Network for AnGR (EUGENA)

2. Membership of the group (chair in grey)

Country	Name Member	Surname
Albania	Lumpturi	PAPA
Austria	Beate	BERGER
Bulgaria	Valentin	GEORGIEV
Croatia	Jelena	RAMLJAK
Czech Republic	Jana	RYCHTAROVA
EFFAB*	Ana	GRANADOS CHAPATTE
France	Delphine	DUCLOS
Georgia	Giuli	GOGOLI
Germany	Steffen	WEIGEND
Greece	Katerina	SARATSI
Italy	Gustavo	GANDINI
Latvia	Dainis	RUNGIS
Lithuania	Alma	RAČKAUSKAITĖ
Montenegro	Milena	DJOKIC
Nordgen*	Jaana	PEIPPO
Norway	Nina	SVARTEDAL
Poland	Ewa	SOSIN
Portugal	Rosa	PEREIRA

Country	Name Member	Surname
Romania	Livia	VIDU
Serbia	Srdjan	STOJANOVIĆ
Slovakia	Alexander	MAKAREVIČ
Slovenia	Tina	FLISAR
Slovenia	Danijela	BOJKOVSKI
Spain	Fernando	TEJERINA
Switzerland	Markus	NEUDITSCHKO
Sweden	Jane	MORRELL
The Netherlands	Annemieke	RATTINK
Turkey	Vedat	KARAKAŞ
Ukraine	Svetlana I.	KOVTUN
United Kingdom	Marcus	BATES

* Observer

3. Activities in the past year and output/results

1. Development of the EUGENA network and EUGENA Steering Board meeting.
2. Task Force on documentation software for genebanks.
3. Ad hoc action on specific measures for AnGR ex situ conservation in the framework of the animal health legislation.
4. Collaboration with Task Force AnGR Strategy-Action Plan.
5. Annual meeting of the ex situ conservation WG.
6. Others.

3. 1. Development of the EUGENA network and EUGENA Steering Board meeting.

The current situation of EUGENA is summarize in the next image:



Portugal enrolled in EUGENA last year and the total number of countries involved in the network was 14: Italy, Romania, Montenegro, Slovenia, Albania, Spain, Poland, Portugal, The Netherlands, Austria, Serbia, Latvia, Slovakia and Hungary.

Portugal communicated the recognition of *Instituto Nacional de Investigação Agrária e Veterinária*.

Spain communicated the recognition of 11 new genebanks:

- *Banco de Germoplasma BIOMEJAN AGR 218 de la Universidad de Córdoba.*
- *Yeguada del Hierro del Bocado.*
- *Centro de Selección y Reproducción Animal de Badajoz (CENSYRA de Badajoz)*
- *Centro de Selección y Reproducción Animal de Cantabria (CENSYRA de Cantabria)*
- *Centro de Selección y Reproducción Animal de Colmenar Viejo-IMIDRA. (CENSYRA de Colmenar)*
- *Centro de Selección y Reproducción Animal de León (CENSYRA de León)*
- *Centro Regional de Selección y Reproducción Animal (CERSYRA-IRIAF)*
- *Equipo de reproducción ZOOTECNIA-INSAVET*
- *Instituto de Investigación y Formación Agroalimentaria de las Illes Balears. (IRFAP)*
- *Servicio Regional de Investigación y Desarrollo Agroalimentario (SERIDA)*
- *Universidad de Huelva*

Whereas Serbia communicated the removal of *Institute of Molecular Genetics and Genetic Engineering* of EUGENA.

The information of the new genebanks (contact data and samples) had uploaded in the EUGENA webpage.

As consequence of the incorporation of the new genebanks in EUGENA and by the updating of the information from the previous genebanks in the net, the number of samples in EUGENA genebanks reached 4.269.742 (+ 2.400.573 than in 2024) and the number of breeds reached 439. For first time EUGENA collect information of two new species: Ass and Pigeon. In the next figures or tables are presented the evolution in the number of samples per genebank in the last six years (Figure 1), the number of samples per genebank (Figure 2), the number of samples per specie (Figure 3), the number of breeds per specie (Figure 4) and the samples per type of material (Table 1). More information in <https://www.eugena-erfp.net/en/>

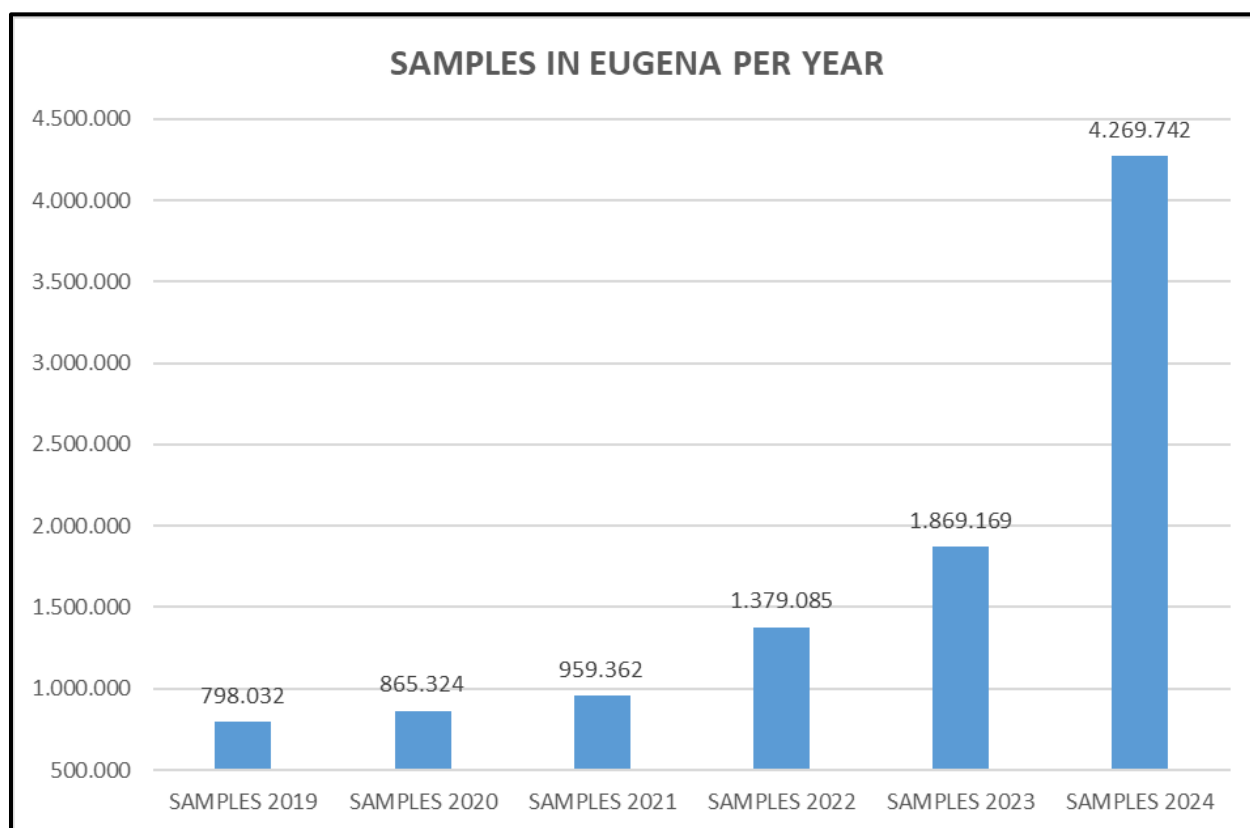


Figure 1. Evolution in the number of samples in EUGENA genebanks (2019-2024)

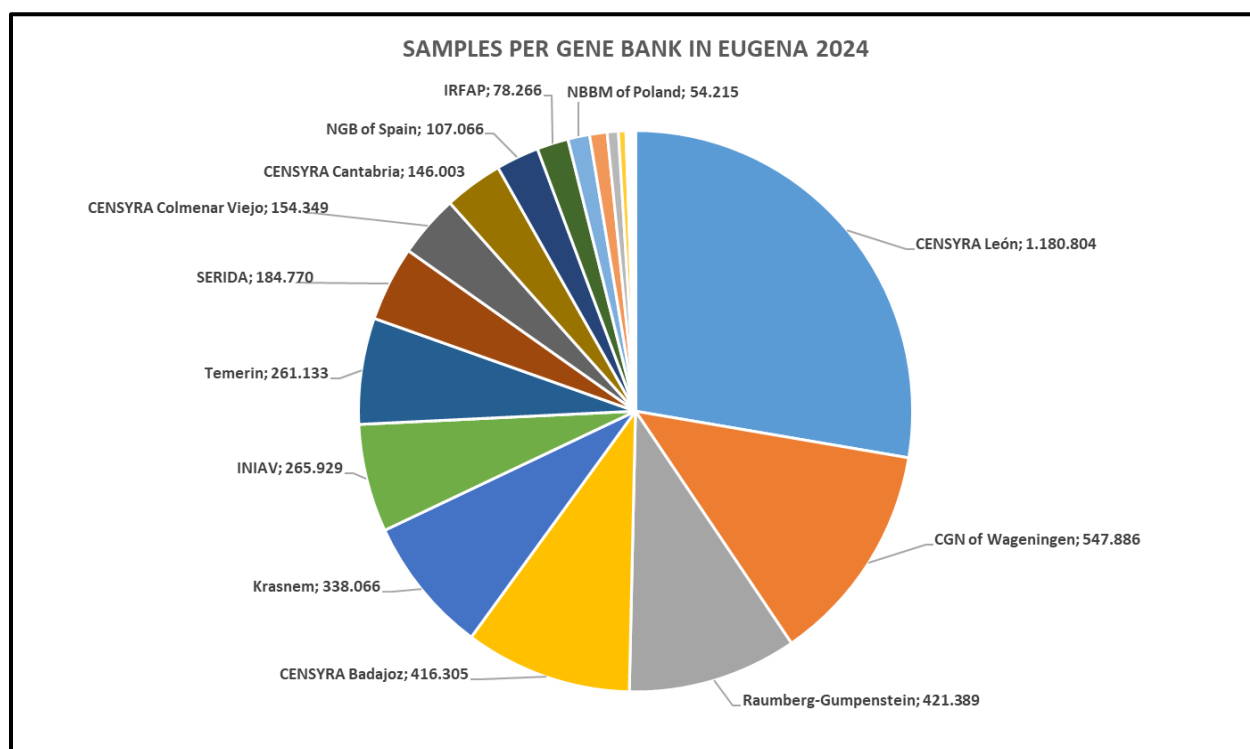


Figure 2. Samples per genebank in EUGENA (2024).

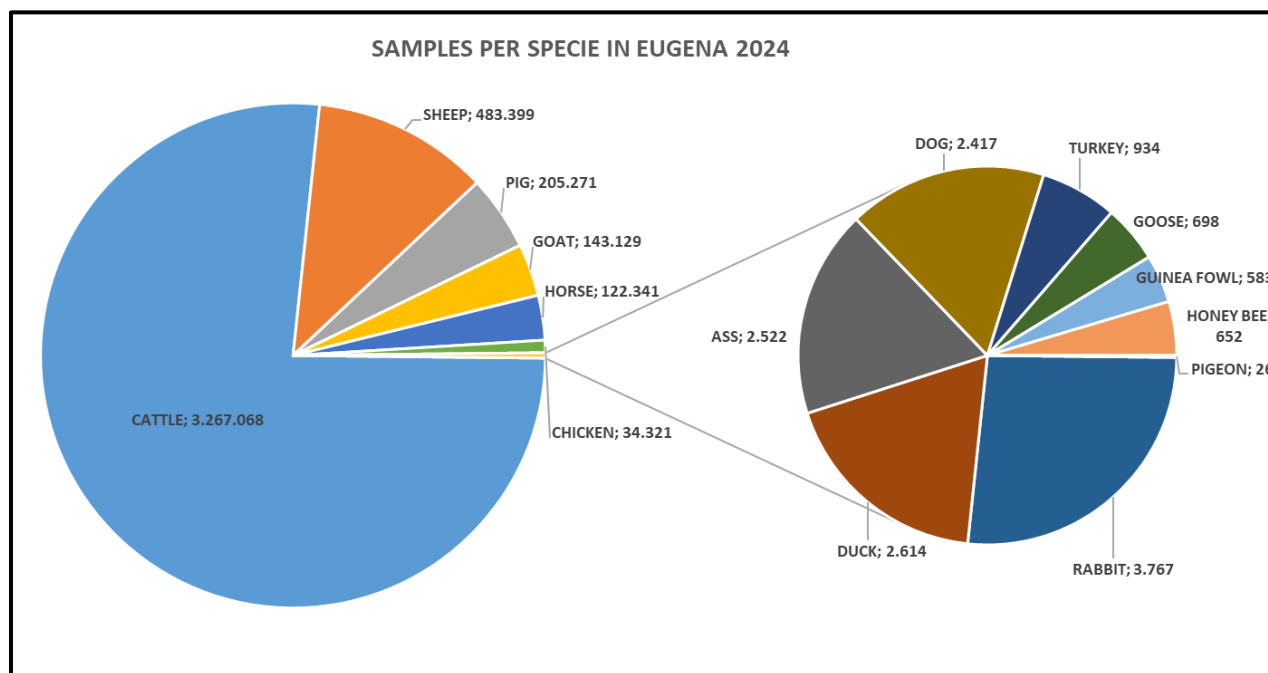


Figure 3. Samples per specie in EUGENA (2024).

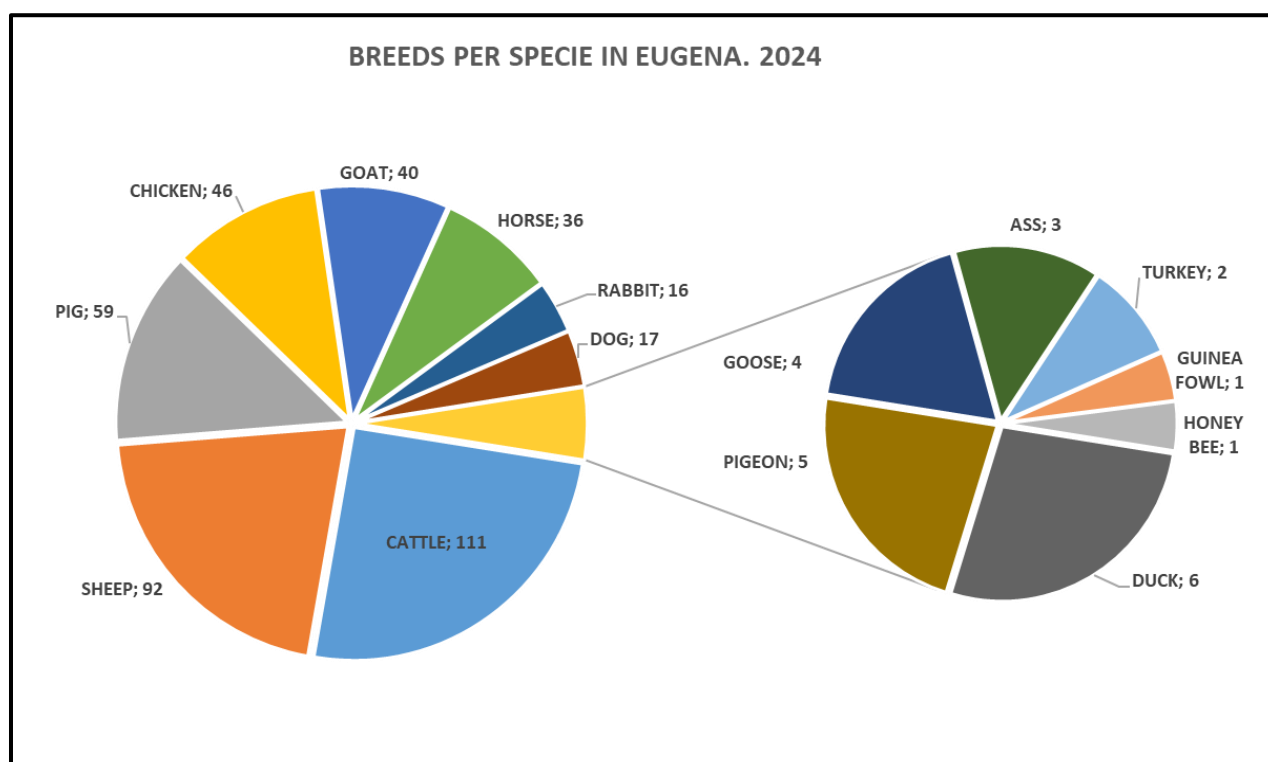


Figure 3. Breeds per specie in EUGENA.

Table 1. Samples per material type.

MATERIAL TYPE	SAMPLES 2019	SAMPLES 2020	SAMPLES 2021	SAMPLES 2022	SAMPLES 2023	SAMPLES 2024
Blood	1.198	1.397	1.673	3.291	11.037	10.084
DNA		0	24	1.109	4.489	58.374
Embryos	413	590	844	967	979	2.511
Primordial germ cells					540	540
Stem cells				328	339	358
Hair	48	48	218	218	218	217
Ovarian tissue					213	213
Semen	796.373	863.289	956.603	1.373.172	1.851.354	4.197.445
Total	798.032	865.324	959.362	1.379.085	1.869.169	4.269.742

The number of breeds (439) with material stored in EUGENA genebanks represented the 11% of the total number of breeds in the European Region (4.063, in accordance with EFABIS).

The EUGENA activities are coordinated by the **Steering Board**, which consists of a genebank representative per Member Country (one person per country) nominated by the NC. The Steering Board is supervised by the ERFP Assembly and assisted by the ERFP Working Group on Ex situ conservation.

The second EUGENA Steering Board meeting was celebrated physically in Poland on 28th and 29th of May and the details on this meeting can be consulted in the specific AHA report on this topic.

EuroFAANG (<https://eurofaang.eu/>) is a collaborative initiative that brings together several Horizon 2020 projects: GEroNIMO, AQUA-FAANG, BovReg, GENE-SWitCH, Rumigen, and HoloRuminant. These projects have established a closer relationship to coordinate their objectives within Europe. Michele Tixier-Boichard, from INRAE, partner of EuroFAANG, presented the initiative in the WG meeting and invite EUGENA and EUGENA members to collaborate in it. The EUGENA Steering Board members, discussed and approved the participation in the project and the ERFP Steering Committee authorised the collaboration of EUGENA with EuroFAANG.

3.2. Task Force on documentation software for genebanks.

See the specific report.

3.3. Ad hoc action on specific measures for AnGR ex situ conservation in the framework of the animal health legislation.

See the specific report.

3.4. Collaboration with Task Force AnGR Strategy-Action Plan-Permanent Secretariat.

The WG Chair has attended to the meetings of this Task Force and collaborate in the development of the Animal Genetic Resources Strategy for Europe and its action plan and in the discussions on the permanente secretariat.

3.5. Annual meeting of the WG Ex Situ conservation.

The WG annual meeting was celebrated in Nicosia (Cyprus) on 23rd and 24th of April.

The issues of the meeting agenda were:

1. Inform on activities of the WG in the last year.
2. Report the advances of the Ad Hoc Action Animal Health Regulation and Genebanks, presentation and discussion on the first draft of the Guidelines for the development of national animal health regulations for material intended to be kept in gene banks.
3. Report on the EUGENA status and proposal of improvements in EUGENA webpage-database, which were approved by the WG members.
4. Report the advances of the Task Force on documentation software for genebanks.
5. Analyze the use of genomic information in genebanks and discuss options to work in this topic in the future.
6. Know the project EUROFAANG and analyze the links with EUGENA and options for future collaboration.
7. Know the work develop in the French National Genebank to assessing the potential of the collection for the management of its genetic diversity.
8. Boost the development of the AHA on QMS.
9. **Elect a new WG Chair: Ewa Sosin, from Poland, was elected as a new ex situ conservation WG Chair.**
10. Propose the **Workplan** for 2025.
11. Analyze the integration of *in situ* and *ex situ* conservation activities, in collaboration with In Situ Conservation WG in an specific joint session.

The presentations of the meeting can be downloaded from:
<https://www.animalgeneticresources.net/index.php/event/2024-erfp-working-groups-documents-of-the-ex-situ-meeting/>
<https://www.animalgeneticresources.net/index.php/event/joint-meeting-of-the-in-situ-and-ex-situ-working-groups-cyprus/>

3.6. Other

The WG have collaborated with ERFP Secretariat in the dissemination of information and knowledge (about ex situ conservation activities) in the ERFP Webpage and social media.

Delphine Duclos has continued the development of the AHA «*Use of the IMAGE self-diagnostic tool to support the development of a quality management system in European animal gene banks*» by recruiting both QMS experts and genebanks to collaborate with this project.

4. Plans and priorities for the next year (to be formally approved by Assembly)

The Chair presented a proposal of Workplan for 2024-2025 in the annual meeting, after the meeting a consultation process was opened to collect comments to the proposal. After this first step a ranking of the task was developed by the members of the Working Group

Eight countries (Germany, France, Lithuania, Poland, Serbia, Slovenia, Spain and The Netherlands) sent their ranking for the tasks, and the final result is the next:

1. Disseminate and promote the guidelines with recommendations to implement derogations for the collection, processing, storage and use of germinal products intended to be kept in genebanks. (AHA Animal Health Regulation and Genebanks)
2. Promote the incorporation of the ex situ conservation activities in the breeding programs of breeders societies together with in situ conservation activities
3. Development of EUGENA
4. Sharing knowledge and expertise in relation with ex situ conservation
5. Support the implementation of a modern genebank documentation software (Task Force on documentation software for genebanks)
6. Support the utilization of Quality Management Systems in Genebanks
7. Analyse the incorporation of ex situ – in vivo facilities to EUGENA, in collaboration with the in situ Conservation WG
8. Spread information about ex situ conservation and EUGENA in collaboration with the Communication Strategy of the ERFP