Friday, 12st August 2022

Mr. Fernando Tejerina
Chair of the Ex situ conservation working group

Report of Ex situ conservation ERFP working group - – 2021/2022

1. Objectives of the group (Summary)

The three main aims of the WG Ex Situ 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	Institute
United Kingdom	Marcus	BATES	British Pedigree Association - Chief Executive of British Pigs Association
Austria	Beate	BERGER	Federal Ministry of Agriculture, Forestry, Environment and Water Management Institute for Organic Agriculture and Biodiversity
Slovenia	Danijela	BOJKOVSKI	University of Ljubljana - Biotechnical Faculty
Germany	Sinje	BÜTTNER*	Verband der Zoologischen Gärten (VdZ)
Montenegro	Milena	DJOKIC	University of Montenegro -Biotechnical Faculty
France	Delphine	DUCLOS	IDELE
Slovenia	Tina	FLISAR	University of Ljubljana - Biotechnical Faculty
Italy	Gustavo	GANDINI	Department DIMEVET - Università degli Studi di Milano
Bulgaria	Valentin	GEORGIEV	Executive Agency for Selection and Reproduction in Animal Breeding
Georgia	Giuli	GOGOLI	Ministry of Agriculture of Georgia, Scientific-Research Center of Agriculture, Department of Livestock Breeding and Forage Production
United Kingdom	Sue	GOLIGHER	DEFRA

Country	Name Member	Surname	Institute
EFFAB	Ana	GRANADOS CHAPATTE*	European Forum of Farm Animal Breeeders (EFFAB)
Nordgen	Mervi	HONKATUKIA	NordGen - Nordiskt Genresurscenter
Turkey	Vedat	KARAKAŞ	
Latvia	Iveta	KLAVINA	Latvian University of Agriculture - Scientific Laboratory of Molecular Biology and Microbiology
Germany	Julia	KÖGLER*	Verband der Zoologischen Gärten (VdZ)
Ukraine	Svetlana I.	KOVTUN	Head of the Department of Biotechnology Institute of Animal Breeding and Genetics NAASU
Slovakia	Alexander	MAKAREVIČ	National Agricultural and Food Centre (NPPC)
Switzerland	Markus	NEUDITSCHKO	Swiss Federal Office for Agriculture (FOAG)
Albania	Lumpturi	PAPA	Agricultural University of Tirana Department of Animal Production
Nordgen	Jaana	PEIPPO*	NordGen - Nordiskt Genresurscenter
Portugal	Rosa	PEREIRA	National Institute of Agrarian and Veterinarian Research - INIAV
Croatia	Jelena	RAMLJAK	Department of Animal Science and Technology Faculty of Agriculture
The Netherlands	Annemieke	RATTINK	Wageningen University and Research Centre
Czech Republic	Jana	RYCHTAROVA	Institute for Animal Production - Department of molecular genetics
Greece	Katerina	SARATSI	Veterinary Research Institute - Hellenic Agricultural Organization
Poland	Ewa	SOSIN	National Research Institute of Animal Production
Serbia	Srdjan	STOJANOVIĆ	Ministry of Agriculture, Forestry and Water Management Department for Rural Development
Norway	Nina	SVARTEDAL	Norwegian Genetic Resource Centre
Lithuania	Ruta	ŠVEISTIENĖ	Animal Science Institute of Lithuanian University of Health Sciences
Spain	Fernando	TEJERINA	Ministerio de Agricultura, Pesca y Alimentacion
Belgium	Sandrine	VANDENBEMPT	Service Public de Wallonie agriculture ressources naturelles environnement
Romania	Livia	VIDU	University of Agronomic Sciences and Veterinary Medicine Bucharest, Animal Science Faculty
Germany	Steffen	WEIGEND	Institute for Farm Animal Genetics of the Friedrich-Loeffler-Institute

** Observer*

3. Activities in the past year and output/results

1. Development of the EUGENA network.
2. Task Force on documentation software for genebanks (2022-2023).
3. Ad hoc action Strengthening national capacities towards the development of a national Gene Bank strategy.
4. Collaboration with Ad Hoc Action GenRes Bridge Project – European Strategy on Animal Genetic Resources.
5. Ad hoc action use of the IMAGE self-diagnostic tool to support the development of a quality management system in European animal gene banks.
6. Annual meeting of the WG Ex Situ conservation, 1st to 3rd June (Paris, France).
7. Others.

3.1 Development of the EUGENA network.

After the approval by the last General Assembly, the new EUGENA ToR and other relevant documents been uploaded in the EUGENA webpage: https://eugena-erfp.net/en/download

The most remarkable modification in the ToR is a new single step procedure to enrolment, which allow without signing a MoU (the main burden in the current process of enrolment) to incorporate a genebank with only a nomination by the National Coordinator or other valid competent authority whereas the incorporation of a new country is recognise with the first genebank nomination. The EUGENA Flyer was updated in accordance with the changes in the EUGENA ToR and was uploded in the EUGENA webpage: https://eugena-erfp.net/images/2022/2022-EUGENA-Flyer-V3.pdf

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

*Data samples from Hungary has not been updated yet.

In the past year the number of countries enroled in EUGENA increased to 13: Italy, Romania, Montenegro, Slovenia, Albania, Spain, Poland, The Netherlands, Austria, Serbia Latvia, Slovakia and Hungary. Hungary enrolled EUGENA in 2022, and is the first country using the new one step procedure settled down in ToR. The information from all countries enrolled have been included in EUGENA webpage.

Poland and Serbia comunicated the recognition of two new genebanks:

- Małopolskie Centrum Biotechniki Krasnem (Poland).
- Institute of Molecular Genetics and Genetic Engineering, University of Belgrade (Serbia).

The information from this two new genebanks (contact data and samples) have been uploaded in the EUGENA webpage.
Hungary communicated the recognigtion of the National Centre for Biodiversity and Gene Conservation in July 2022, and only the information about contact data have been added to EUGENA Webpage in the date of wording this report.

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 1.379.085 (+ 417.490 than in 2021) and the number of breeds reached 297. In the next figures or tables are presented the number of samples per genebank (Figure 1), the number of samples per specie (Figure 2), the number of breeds per specie (Figure 3) and the samples per type of material (Table 1). More information in https://www.eugena-erfp.net/en/

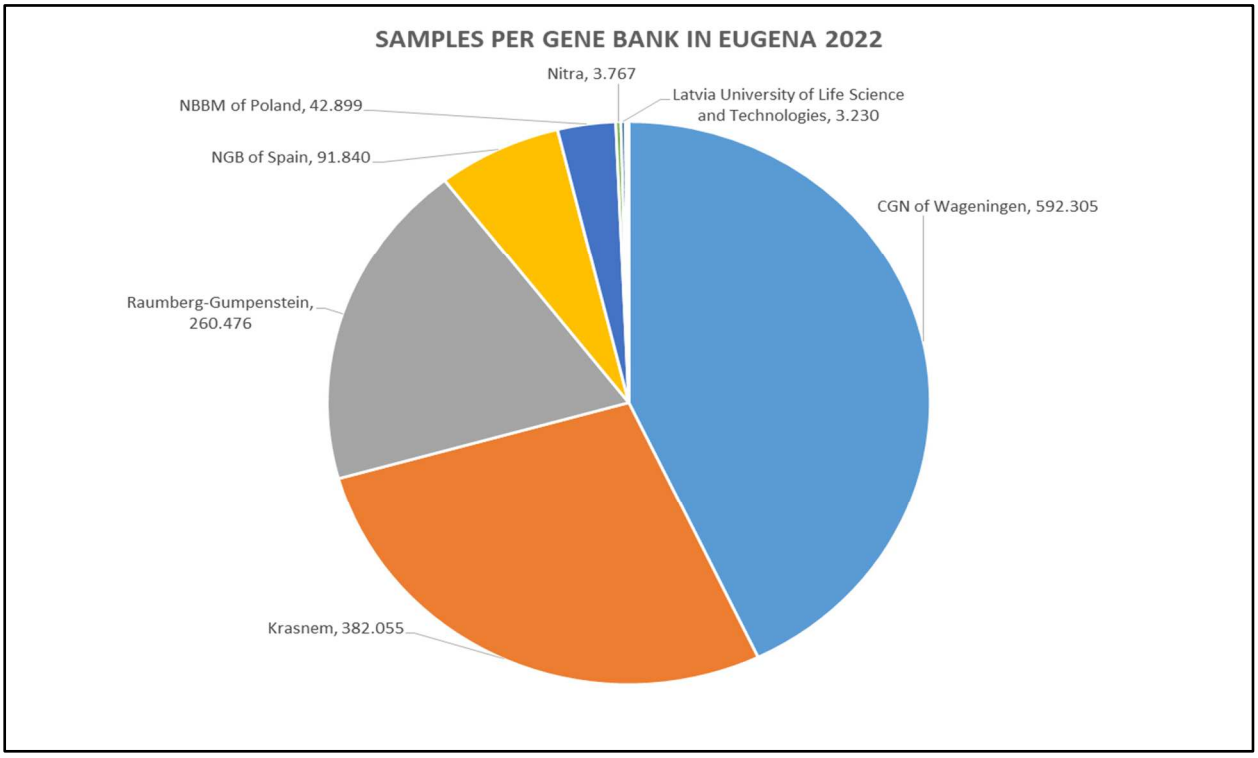

Figure 1. Samples per genebank in EUGENA.

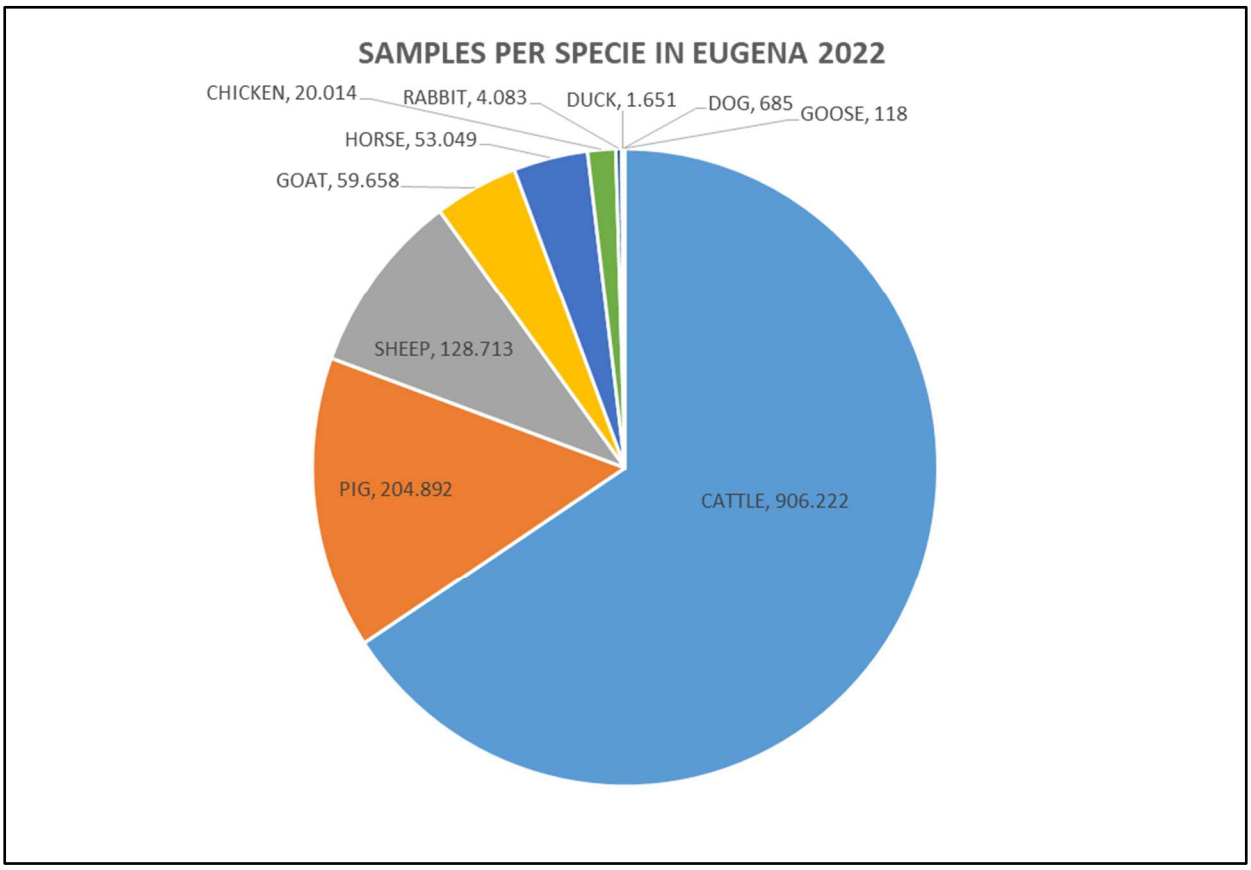

Figure 2. Samples per specie in EUGENA.

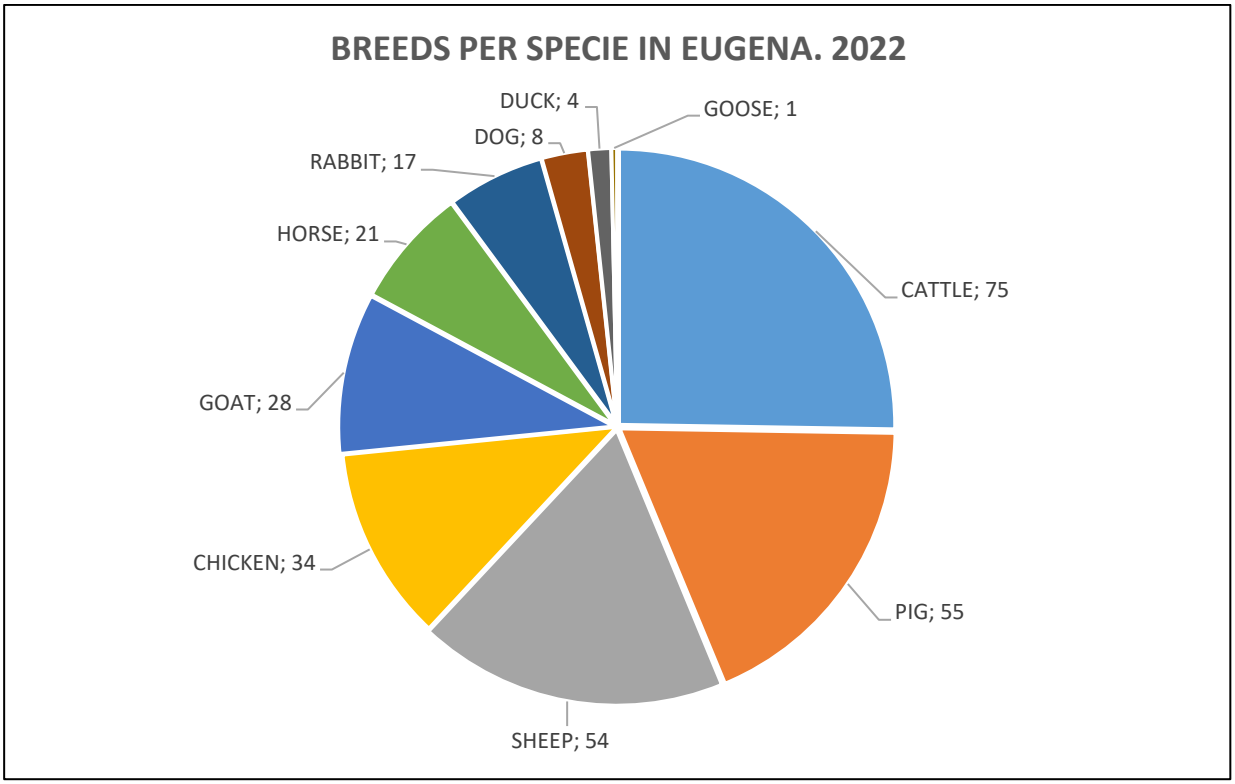

Figure 3. Breeds per specie in EUGENA.

Table 1. Samples per material type.

MATERIAL TYPE	SAMPLES 2020	SAMPLES 2021	SAMPLES 2022
Blood	1.397	1.673	3.291
DNA	0	24	1.109
Embryos	590	844	967
Hair	48	218	218
Somatic Cells	0	0	328
Semen	863.289	956.603	1.373.172
Total	**865.324**	**959.362**	**1.379.085**

The number of breeds (297) with material stored in EUGENA genebanks represented the 7% of the total number of breeds in the European Region (4.063, in acordance with EFABIS).

3.2 Task Force on documentation software for genebanks (2022-2023).

See the specific report.

3.3. Ad hoc action Strengthening national capacities towards the development of a national Gene Bank strategy.

See the specific report.

3.4. Collaboration with Ad Hoc Action GenRes Bridge Project – European Strategy on Animal Genetic Resources.

Members of the Ex-situ conservation WG have participated actively in the development of the European Strategy for Animal Genetic Resources until its ending and in the presentation of the Strategy, attending to the event "Launch of the Genetic Resources Strategies for Europe" 30th November 2021 in Brussels.

3.5. Ad hoc action use of the IMAGE self-diagnostic tool to support the development of a quality management system in European animal gene banks

See the specific report.

3.6. Annual meeting of the WG Ex Situ conservation, 2nd June (Webconference).

The WG annual meeting was celebrated in Paris (and by videoconference) between 1st to 3rd of June (30 attendances in total), thanks to the excellent organization of our French colleagues.

The issues of the meeting agenda were:

1. Report on the activities of the WG in the last year.
2. Update of the EUGENA status and inform on the novelties in the new EUGENA ToR.
3. Report on the development of Ad Hoc Action to strengthening national capacities towards the development of a national Gene Bank strategy.
4. Inform on the development of the Task Force on documentation software for genebanks.
5. Disseminate information about the role of zoos in the ex situ in vivo conservation of AnGR.
6. Discuss on and propose actions for an Action Plan to achieve the key commitments identify in the Animal Genetic Resource Strategy and, at the same time, propose ideas for the development of the future ERFP MyPOW.
7. Report on the measures for AnGR in the new European Union Rural Development Policy.
8. Disseminate information on the Nordfrost project.
9. Report on the Ad Hoc Action use of the IMAGE self-diagnostic tool to support the development of a quality management system in European animal gene banks.
10. Workplan for 2022-2023: The chair presented a proposal of tasks. After the meeting a consultation period will be opened to send comments to the proposal, and also for a prioritization of the tasks (with the exception of EUGENA development, which is the high priority for the WG).

The presentations of the meeting can be downloaded from: https://www.animalgeneticresources.net/index.php/event/joint-meetings-of-the-wg-day-2/

3.8 Others activities.

- Collaborate with ERFP Secretariat in the dissemination of information and knowledge in the ERFP Webpage and Social Media.
- The Ad hoc action on specific measures for AnGR ex situ conservation in the framework of the animal health legislation was approved by the SC, but the start of this activity have been delayed until the European Reference Centre for Endangered Animal Breeds will be appointed, in order to develop the AHA in collaboration with that centre.

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

The Chair presented a proposal of Workplan for 2022-2023 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 (with the exception of **EUGENA development, which is the highest priority for the WG**).

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

1. Development of a modern genebank documentation software.
1. Supporting the development of national regulation about germinal products collection intended to be kept in genebanks and the recognition of genebanks at national level (AHA-ERC)
3. End AHA strengthening national capacities towards the development of a national genebank strategy.
4. Sharing knowledge and expertise in relation with cryopreservation protocols by species.
5. Collaboration in the development of the Action Plan for the European strategy for Animal Genetic Resources and ERFP MYPOW.
6. Support the utilization of Quality Management Systems in Genebanks (AHA).
7. Spread information about ex situ conservation and EUGENA in collaboration with the Communication Strategy of the ERFP.
8. Collaboration with the Ad Hoc Action: Transboundary breeds in Europe. Promote concerted action between countries.