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WORKING GROUP EX SITU CONSERVATION. REPORT OF ACTIVITIES 2019-2020.

3rd September 2020.


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

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1. WORKPLAN FOR 2020

- ✓ 1. The first priority of the WG is the development of **EUGENA**, and then:
- ✓ 2. Development of specifications for a modern gene bank documentation software (Ad Hoc Action).
- ✗ 3. Supporting the development of national regulation about germinal products collection intended to be kept in gene banks
- ✓ 4. Identification and recognition of gene banks at national level on the basis of the results of the Ad hoc action to develop **EUGENA**.
- ✓ 5. Collaboration with the IMAGE Project and follow up its main outputs.
- ✓ 6. Sharing knowledge and expertise through the ERFP website
- ✓ 7. Collaboration with GenRes Bridge Project.
- ✓ 8. Finalizing the model of MTA/MAA for use of gene bank material in breeding, conservation and research in cooperation with Task Force ABS
- ✗ 9. Supporting the application of the new regulation of germinal products in relation with the procedure for germinal products moved to gene banks in another Member State.
- ✓ 10. Ex situ strategies for transboundary breeds in coordination with the initiatives of WG Docu and/or WG In Situ
- ✗ 11. Review of definitions relevant for **EUGENA**.



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2. ACTIVITIES IN THE LAST YEAR AND OUTPUT/RESULTS.

- Approval the Ad Hoc Actions:
 - for the development of specifications for a modern gene bank documentation software.
 - to support the development of **EUGENA**, to identify candidate **EUGENA** gene banks, and improve the information about the gene banks in Europe.
- Ending of the models of MTA/MAA for use of gene bank material in breeding, conservation and research.
Publishing in ERFP Webpage.




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2. ACTIVITIES IN THE LAST YEAR AND OUTPUT/RESULTS.

- Dissemination of IMAGE outputs.
- Collaborate with ERFP Secretariat in the dissemination of information and knowledge in the ERFP Webpage and Social Media.
- Collaborate with WGs ERFP in the design of the Ad Hoc Action Transboundary breeds in Europe. Promote concerted action between countries.



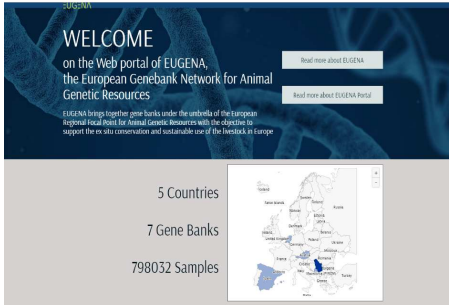
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2. ACTIVITIES IN THE LAST YEAR AND OUTPUT/RESULTS.


- Development of EUGENA.
 - New gene bank on board: National Bank of Biological Material from Poland.
 - Update of information in the EUGENA webpage.

2019




5 Countries
7 Gene Banks
79803 Samples

2020




10 Countries
8 Gene Banks
86524 Samples

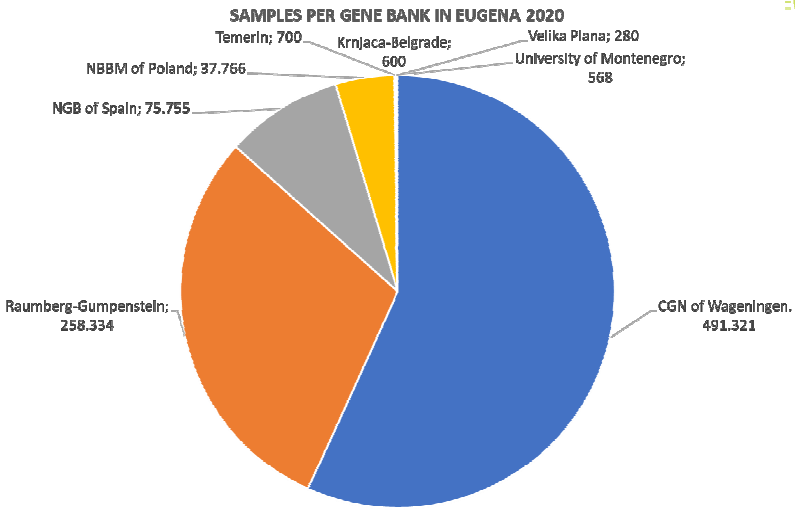
+ 67.292 SAMPLES (New Gene Bank + information update)



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SAMPLES PER GENE BANK IN EUGENA 2020




Gene Bank	Samples
CGN of Wageningen.	491.321
Raumberg-Gumpenstein;	258.334
NGB of Spain;	75.755
NBBM of Poland;	37.766
University of Montenegro;	568
Velika Plana;	280
Krnjaca-Belgrade;	600
Temerin;	700

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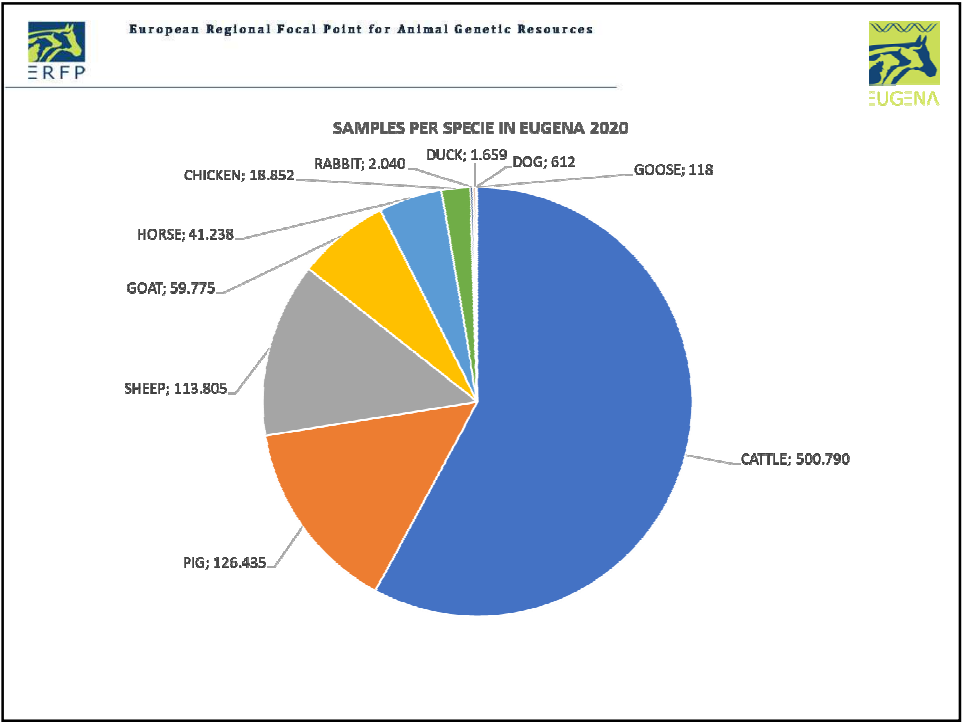


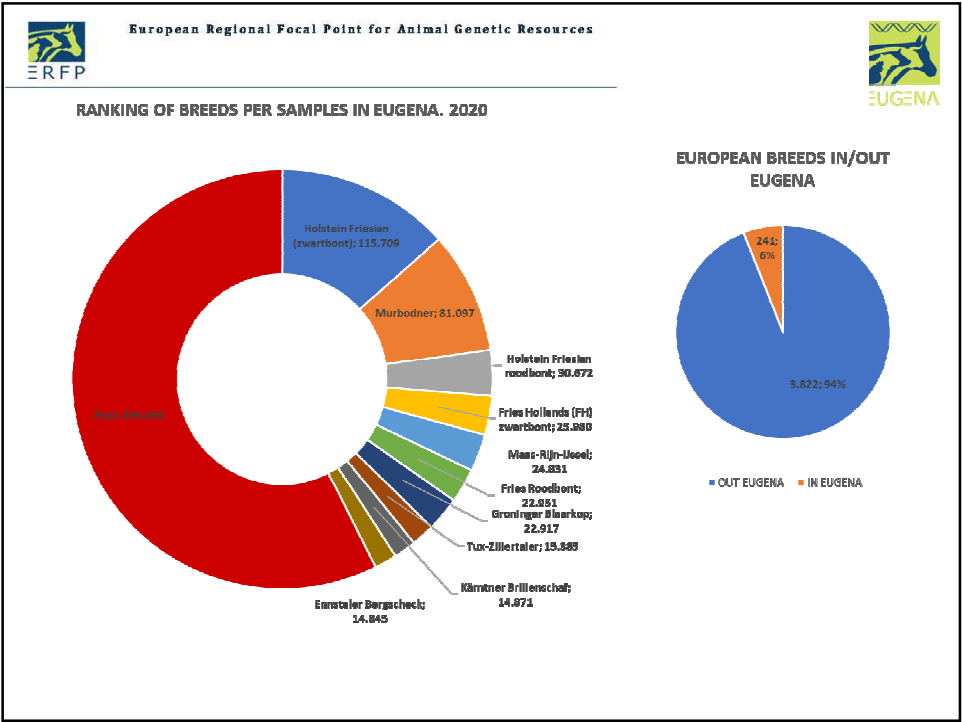
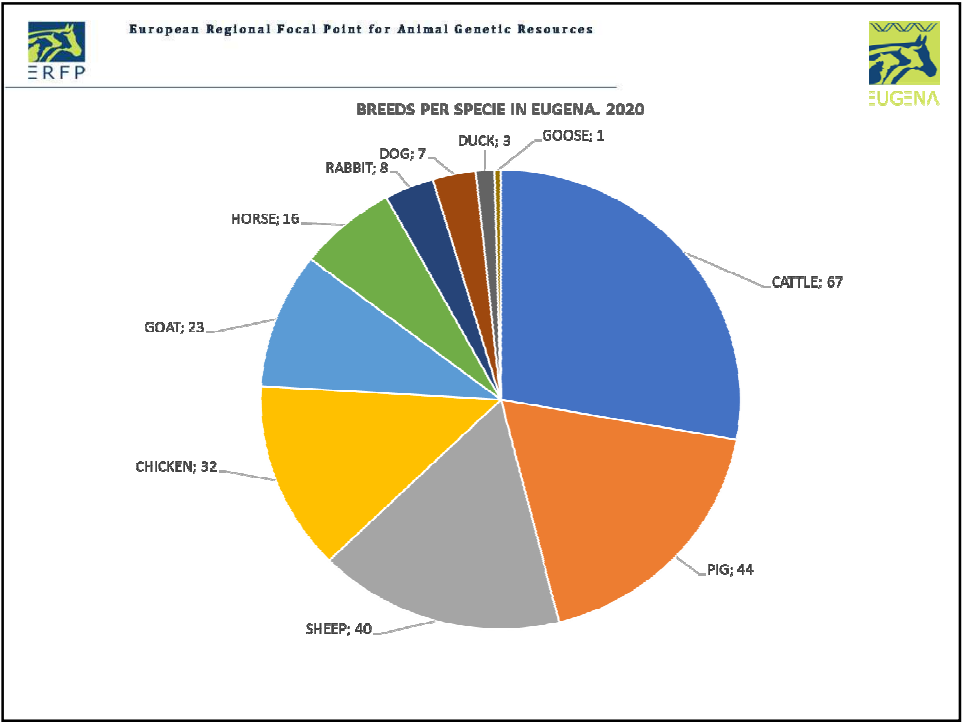
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MATERIAL TYPE	SAMPLES 2019	SAMPLES 2020
Blood	1.198	1.397
Embryos	413	590
Hair	48	48
Semen	796.373	863.289
Total	798.032	865.324


MATERIAL TYPE	MALE DONOR	FEMALE DONOR
Blood	392	498
Embryos	50	100
Hair	3	45
Semen	10.331	0
Maximum	10.776	643








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2. ACTIVITIES IN THE LAST YEAR AND OUTPUT/RESULTS.

- Collaboration with GenRes Bridge Project.
 - Proposal of specific strategic recommendations for Ex Situ Conservation of AnGR.
 - Ex-situ conservation workshop.
- Commission Delegated Regulation (EU) 2020/686 Supplementing Regulation (EU) 2016/429 of the European Parliament and of the Council as regards the approval of germinal product establishments and the traceability and animal health requirements for movements within the Union of germinal products of certain kept terrestrial animals. **RECOGNITION OF THE GENE BANKS IN THE VETERINARY REGULATION FOR FIRST TIME.**



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2. ACTIVITIES IN THE LAST YEAR AND OUTPUT/RESULTS.

- ANNUAL MEETING
 - ✓ Report on activities of the WG, focus in:
 - Ad Hoc Action for the development of specifications for a modern gene bank documentation software.
 - Ad Hoc Action to support the development of EUGENA, to identify candidate EUGENA gene banks, and improve the information about the gene banks in Europe
 - ✓ Report on other activities where the WG is involved:
 - GenRes Bridge Project.
 - Ad Hoc Action Transboundary Breeds in Europe.
 - ✓ Proposal of the Workplan for 2021.



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3. AHA to support the development of **EUGENA**, to identify candidate **EUGENA** gene banks, and improve the information about the gene banks in Europe.


AHA MEMBERS: Coralie Danchin, Delphin Duclos, Oscar Cortes, Sipke-Joost Hiemstra, Zhivko Ducheve, Manuel Luque and **Fernando Tejerina**.

ACTIVITIES:

- **EUGENA FLYER.**
- Certificate of membership.
- Mailing




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3. AHA **EUGENA** RESULTS.

MAILING.

- ✓ National coordinators of the ERFP.
- ✓ Members of the ERFP WGs.
- ✓ Semen collection and storage centres, embryo collection and production teams approved by the MMSS of the EU and third countries in the European Region.
- ✓ Breeder's societies approved by the MMSS and third countries in the European Region
- ✓ Animal Breeding Industry: EFFAB and FABRE (for the dissemination to their members).
- ✓ NGOs in relation with conservation and sustainable use on AnGR : SAVE, RARE BREED...(for the dissemination to their members)
- ✓ Researchers: ESDAR, EAAP and AETE (for the disseminations to their members).
- ✓ Competent authorities in the zootechnical field of the MMSS, and to the European Commission.
- ✓ Participants in previous projects, as IMAGE Project.




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3. AHA EUGENA RESULTS.

QUESTIONNAIRE:

- **Name of the institution holding the gene bank** (mandatory).
- **Postal address** (mandatory). Fields: Address, City, Zip Code and Country.
- **E-mail address** (mandatory).
- **Species of the donors of the material stored in gene bank** (mandatory). Multianswer question, with the next options: Cattle, Buffalo, Donkey, Goat, Horse, Pig, Rabbit, Sheep, Poultry, Water species, Fur species, Pets, Wild Species and Others.
- **Type of biological material stored** (mandatory). Multianswer question, with the next options: Semen, Embryos, Oocytes, DNA, Blood, Tissue, Hair, Feathers y Others
- **Main objective of the gene bank.** (mandatory). Multianswer question, with the next options: Conservation, Research and Commercial.
- **Web page** (no mandatory).
- **Profiles in social media** (no mandatory).
- **EUGENA encourages and promotes collaboration between genebanks, do you want to receive more information about EUGENA?**



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3. AHA EUGENA RESULTS.


INVENTORY, 103 VALID ANSWERS:

Countries	Commercial	Conservation	Research	Grand Total
Albania		1		1
Austria		1		1
Belgium			1	1
Spain			1	1
Bulgaria		2		2
Croatia		1		1
Denmark		3		3
Finland		1	1	2
France	1	4	2	7
Germany	1	1	1	3
Greece			1	1
Hungary			1	1
Ireland	3			3
Italy	1	4	3	8
Lithuania		1		1
Luxembourg			1	1
Norway	1	1		2
Poland			1	1
Portugal		2		2
Romania	2	2	1	5
Slovenia		2		2
Spain	8	26	8	42
Sweden		1		1
Switzerland		3		3
The Netherlands		1		1
UK	2	2	1	5
Ukraine		1		1
Total	19	60	24	103

AHA + IMAGE PROJECT + EUGENA = 125 GENEbanks IN THE EUROPEAN REGION



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4. AHA for the development of specifications for a modern gene bank documentation software


AHA MEMBERS: Francisco Javier Cuevas, Sipke-Joost Hiemstra, Eva-Marie Stalhammar, Ewa Sosin-Bzducha, Delphine Duclos, Nataliia Reznikova, Danijela Bojkovski, Fernando Tejerina and **Zhivko DucheV**.

ACTIVITIES:

- Survey:
 - Setup and documentation.
 - The documentation software.
 - CryoWeb 2.0 required features.
 - 25 answers
- Web-Meeting on 11.03.20.
 - Analysis of the survey results.
 - Examples from other software to manage genebanks:
 - Animal-GRIN.
 - EURISCO.
 - Opencryobank
- Presentation the results in Documentation and Information WG and Ex situ Conservation WG:
How to develop the new software? => Questionnaire with 4 options and a proposal to join Animal GRIN.



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4. AHA for the development of specifications for a modern gene bank documentation software


No common action

	Country level	ERFP level
Costs	+++	+
Personnel	+++	+
Maintenance	+++	+

Each country develops the software it requires on its own



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4. AHA for the development of specifications for a modern gene bank documentation software


Common action for groups of similar countries

	Country level	ERFP level
Costs	++	+
Personnel	++	+
Maintenance	++	+

Groups of countries with similar requirements develop common software that suits their needs



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4. AHA for the development of specifications for a modern gene bank documentation software


Common action for all EUGENA members

	Country level	ERFP level
Costs	+	++
Personnel	+	++
Maintenance	+	++

ERFP develops simple software for gene bank documentation, in order for the EUGENA member countries to meet minimum data standards of documentation (i.e. CryoWEB 2.0).



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4. AHA for the development of specifications for a modern gene bank documentation software


Common action for all ERFP members

	Country level	ERFP level
Costs	+	+++
Personnel	+	+++
Maintenance	+	+++

ERFP develops and maintains a common software that can be used by all countries



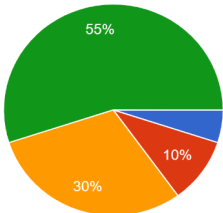
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4. AHA for the development of specifications for a modern gene bank documentation software


In relation with the development of a new documentation software for Genebanks, the most suitable option for your country, is.

20 respuestas



- 1. No common action.
- 2. Common action for groups of similar countries.
- 3. Common action for all EUGENA members.
- 4. Common action for all ERFP members.

ERFP develops and maintains a common software that can be used by all countries: **RELEVANT IMPACTS IN ERFP BUDGET**



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4. AHA for the development of specifications for a modern gene bank documentation software.

All previous options allows the joining to Animal-GRIN: The software used by USDA, Canadá and Brasil (partners) and México (user).


Advantages:

- Modern and proven system.
- Possibility to participate in the development of new versions and utilities.
- Creation of an intercontinental initiative in relation with the Ex situ conservation of AnGR.
- The software is for free but a commitment to invest in the maintenance and new development is required.

Estimation of annual cost of joining Animal-GRIN: 60.000 \$/year/Member.

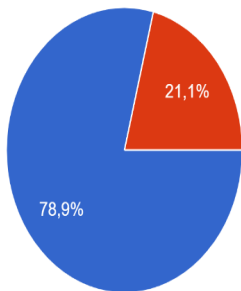


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4. AHA for the development of specifications for a modern gene bank documentation software


The previous selection (option) will be developed:
19 respuestas



Option	Percentage
Only at country (option 1) or european (options 2,3 and 4) level.	78,9%
Joining to Animal-Grin Project (lead by USDA)	21,1%




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4. AHA for the development of specifications for a modern gene bank documentation software

- Further steps:
 - Discussion about the results of the survey:
 - Common system for all ERFP countries?
 - Development only at european level?
 - Analysis the alternatives and impacts in the ERFP Budget by a small group of experts this year and organise a TF for the next year to deal with the development of the new software.



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5. PROPOSAL OF PLAN AND PRIORITIES FOR 2020-2021.

1. Development of **EUGENA**.
2. Development of a modern gene bank documentation software in coherence with the results of the Ad Hoc Action.
3. Supporting the development of national regulation about germinal products collection intended to be kept in gene Banks and the recognition of gene Banks at national level.
4. Collaboration with the ResGen Bridge Project in the development of the European Genetic Resources Strategy and specific Program for AnGR.
5. Supporting the application of the new regulation of germinal products in relation with the procedure for germinal products moved to gene banks in another Member State
6. Collaboration with the Ad Hoc Action: Transboundary breeds in Europe. Promote concerted action between countries.
7. Sharing knowledge and expertise in relation with Cryopreservation protocols by species.
8. Spread information about ex situ conservation and **EUGENA** in collaboration with the Communication Strategy of the **ERFP**.

THANK YOU

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