



Federal Office
for Agriculture and Food

INFORMATION AND
COORDINATION CENTRE

**Biological
Diversity**

Current Projects on Animal Genetic Resources in Germany

Examples of current research and development projects

Lisa Balzar, Federal Office for Agriculture and Food Germany: Information and Coordination Centre for Biological Diversity (BLE-IBV)
ERFP General Assembly – 05./06.09.2026 in Hamburg, Germany



#VielfaltBLE

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Four current projects



1. ÖkoSus



2. KryoZiege



3. RegioHuhn



4. SNovicaP



→ From characterisation of genetic diversity to its conservation, management and sustainable use.

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1. ÖkoSus — Genomic characterisation of endangered pig breeds as the basis for sustainable breeding schemes in organic farming

01.10.2024–30.09.2028

Friedrich-Loeffler-Institute (Federal Research Institute for Animal Health): Institute for Livestock Genetics (FLI-ING) & University of Kassel

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ÖkoSus 

- All native and endangered pig breeds: Angler Sattelschwein, Bunte Bentheimer, Deutsche Landrasse, Deutsches Edelschwein, Deutsches Sattelschwein, Leicoma, Rotbuntes Husumer Schwein, Schwäbisch Hällisches Schwein
- Genomic characterisation of field population and genebank material
- Assessment of genetic diversity and relationships within and between populations
- Development of sustainable breeding strategies

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2. KryoZiege — Conservation strategy and utilization concepts for cryoreserves using endangered goat breeds as a model

01.07.2026-31.12.2027

Society for the Conservation of Old and Endangered Livestock Breeds (GEH) & Friedrich-Loeffler-Institute: Institute for Livestock Genetics (FLI-ING)



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KryoZiege



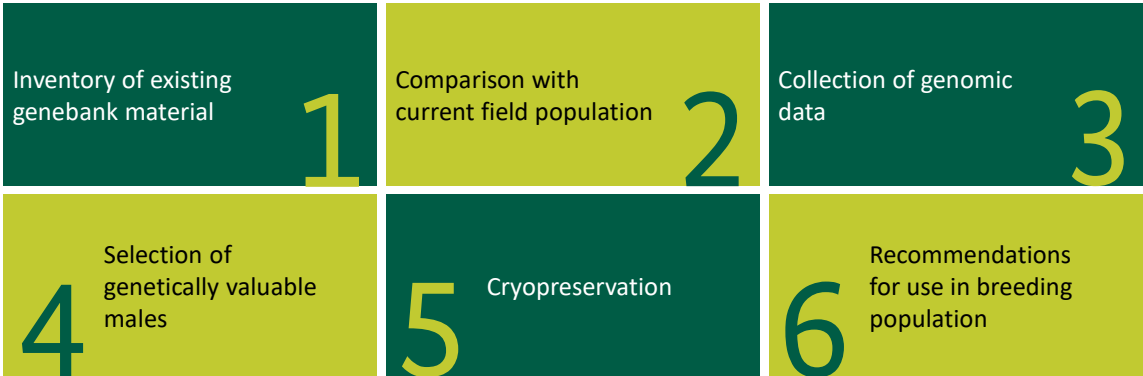
- All native endangered goat breeds: Thüringer Wald Ziege, Deutsche Edelziege, Weiße Deutsche Edelziege
- Analysis of field population and genebank data
- Develop breed-specific recommendations for using cryoconserved semen in field populations
- Strengthen conservation breeding through the targeted use of gene bank material
- Development of breeding strategies that can be transferred to other endangered livestock populations

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KryoZiege



KryoZiege



3. RegioHuhn — Sustainable use of local, endangered chicken breeds

01.03.2020-29.02.2028

Friedrich-Loeffler-Institute: Institute for Livestock Genetics (FLI-ING) FLI & Universities of Bonn, Kassel, Osnabrück & State research center for agriculture (LfL) & organic association (Naturland) & local organic farms

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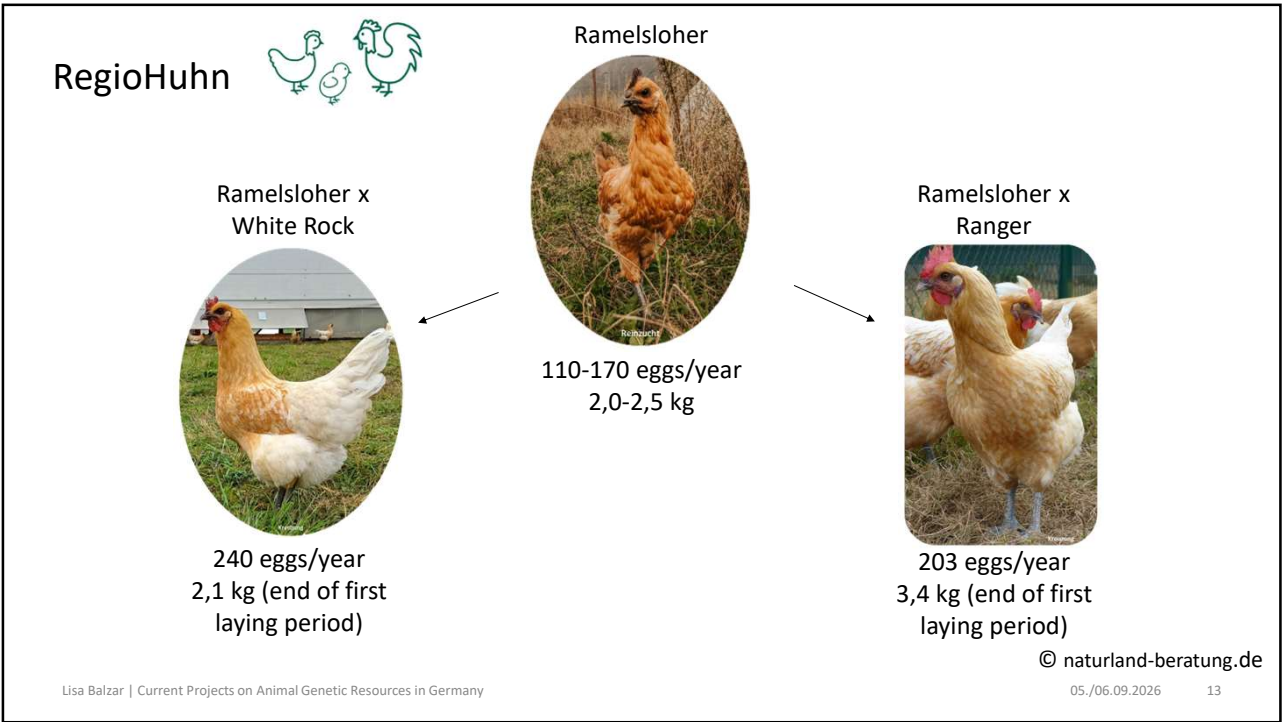
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RegioHuhn



- Three native chicken breeds (Altsteirer, Bielefelder Kennhühner, Ramelsloher) are crossed with conventional genetics (White Rock, Lohmann Breeders and Ranger, Aviagen)
- Creation of egg-type (White Rock) and meat-type (Ranger) dual-purpose chickens
- Marker-assisted breeding improvement of the nucleus herds
- Selection in the nucleus herds for performance improvement
- Establishment of regional value chains

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4. SNovicaP — Implementation of SNP analysis as a routine procedure for genomically supported applications in sheep and goat breeding

01.02.2026-31.01.2029

University of Giessen & United Information Systems for Livestock Farming (vit)

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SNovicaP

- OVICAP: country-wide database for managing and using animal breeding data in sheep and goat populations (used by all sheep breed societies and almost all goat breed societies)
- Introduce and establish SNP analysis as a routine tool for sheep and goat breeding
- Analyse genetic diversity within sheep and goat breeds
- Calculate genomic inbreeding coefficients, carry out parentage checks, issue causal variants for hereditary defects and functional traits with the help of SNPs
- Test and validate the applications in several sheep and goat breeds

SNovicaP



? Where is Research in the field of Animal Genetic Resources taking us?



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Towards:

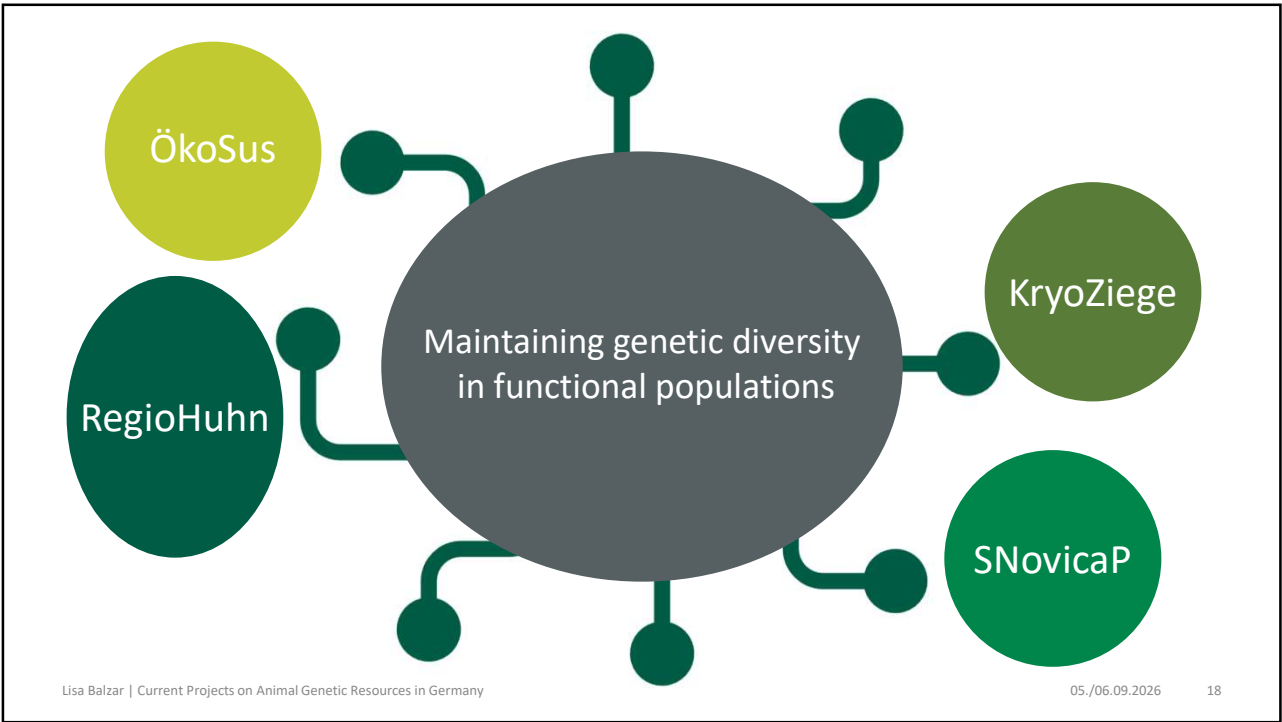
- More genomic characterization and cryoconservation
- Active management of populations and combining in situ with ex situ approaches
- Sustainable use of the breeds

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Further reading, other recent (or ongoing) projects

- Animal welfare & meat quality in locally adapted organic pig breeding, 2024–2027
- Dual-purpose chickens in organic farming - breeding and potential identification of suitable origins and implementation in practice, 2020-2026
- Animal welfare, nutrient & climate efficiency of the Angler cattle (old type), 2022-2025
- Genetic diversity of the honey bee, 2021-2024
- Evaluation of the possibility to breed for resistance to the maedi visna virus in the breed Rauwolliges Pommersches Landschaf, 2023-2024
- Practical strategies for population and health management using the Thuringian Forest goat as a model, 2021-2024
- Optimisation of the Contribution of VdZ Member Zoos to the Ex Situ In Vivo Conservation of Endangered Native Livestock Breeds, 200-2023
- Development of a breed-specific SNP chip for genomic selection and diversity management of the German Black Pied Lowland Cattle (DSN), 2016-2023

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Questions?

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