



The rescue of Cárdena Andaluza cattle breed.

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Ministry of Agriculture, Fisheries and Food.



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Y ALIMENTACIÓN

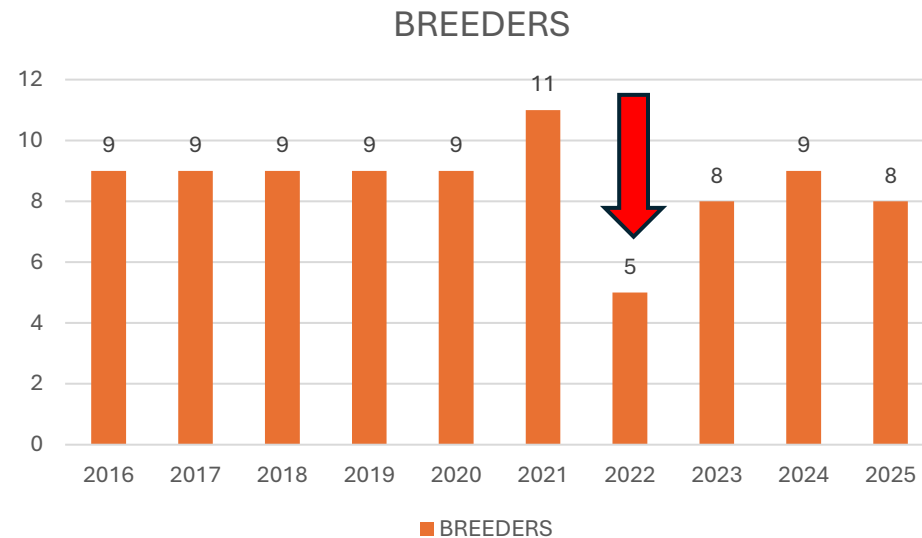
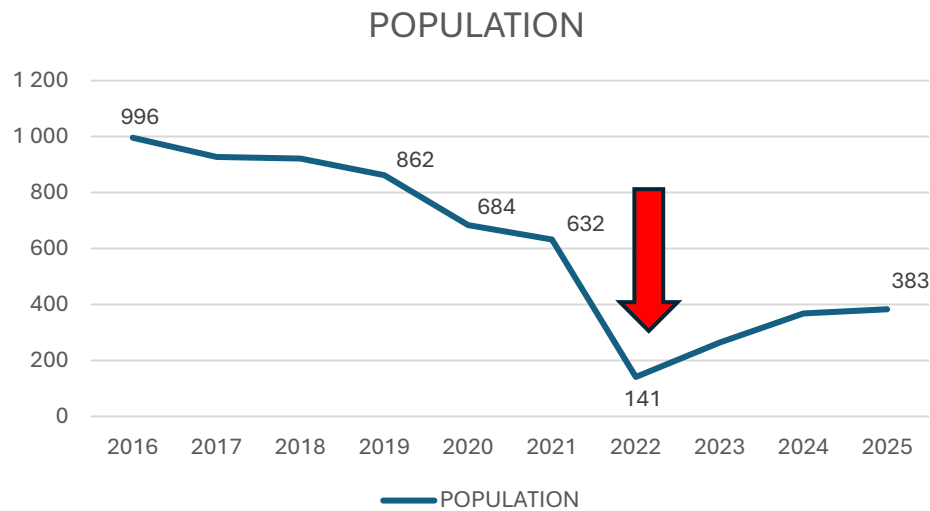


CARDENA ANDALUZA CATTLE BREED

- Cárdena Andaluza is a cattle breed from southern Spain, adapted to drought and arid conditions and historically used as draught animal.
- Distinctive “Cardena” coat (mixture of black and white hair) and large horns.
- Currently classified as Endangered Native Breed in high risk of extinction.



DEMOGRAPHY EVOLUTION AND GENE BANK



*2021: A family of breeders (2/3 of total population) give up the breed.

EX SITU CONSERVATION:

- 3.173 Semen doses from 8 donors
- 2.077 Semen doses from 2 donors and 1 embryo.

All data come from ARCA



CENSYRA
centro de selección y reproducción animal



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**RESCUE
PROYECTO
2021-2025.**



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OBJECTIVE: To improve
the conservation status
of the Cárdena Andaluza
breed by expanding its
gene bank and
increasing the in vivo
population.



RESCUE PROYECT. ACTIVITIES (2021-2025).



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14 breeding females were housed at CENSYRA Badajoz:

- 66 multiple ovulation and uterine flushing sessions for embryo production.
- 94 ultrasound-guided follicular aspirations for IVF.
- 23 Embryo transfer to recipient females of other breeds (Retinta and Blanca Cacereña).
- 56 Artificial inseminations of breeding females and their descendant's.

Semen collection: 5.987 semen doses from 14 males:

- In farm (1.142 – 7 donors)
- In the facilities of CENSYRA (4.845 – 7 donors)



RESCUE PROYECT. ACTIVITIES (2021-2025).



- Semen collection in farm: 257 semen doses from 1 donor
- Managers for the National Genebank, coordinating the release of semen doses for the project.



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- 26 Embryo transfer to surrogate females of other breed (Holstein-frisian).
- Advisor in the implementation of reproductive technics.

<https://www.canalsur.es/television/programas/tierra-y-mar/noticia/2013969.html>



Matings planning using an evolutionary simulation algorithm (EVAI) which minimizes the increase in population inbreeding and kinship relationships, based on genealogical records and analyses of 100.000 SNPs chips.

RESCUE PROYECT. ACTIVITIES (2021-2025).



- Technical coordinator of the project and breeders and responsible of the breeding programme.
 - Collaboration with/between breeders.
- <https://cardenaandaluza.com/el-proyecto/>



- Funding the activities of the project and breeding programme.
- General coordination of the project and competent authority in charge on the breed and breeding programme.
- Owner of the National Gene bank.
- Veterinary Central Lab: 195 analyses of 100.000 SNPs chips.
- Call to action to Regions in the National Advisory Committee on AnGR, asking for implementing **Agri-environmental payments** for Cárdena Andaluza Breeders.



RESCUE PROYECT. RESULTS (2021-2025).

- 383 ANIMALS (NEW BREEDERS + EMBRYO TRANSFERS AND ARTIFICIAL INSEMINATION)
- 8 BREEDERS.
- 258 EMBRYOS PRODUCED AND 189 CRYOPRESERVED
- 12 SUCCESFUL PREGNANCIES BY EMBRYO TRANSFER.
- 22 SUCCESFUL PREGNANCIES BY ARTIFICIAL INSEMINATION.
- 6.244 SEMEN DOSES PRODUCED FROM 15 DONORS.
- CURRENT SITUATION OF THE PRIMARY BANK:
 - 6381 SEMEN DOSES FROM 18 DONORS.
 - 25 EMBRYOS
- CURRENT COLLECTION IN THE NATIONAL GENE BANK:
 - 4.073 SEMEN DOSES FROM 23 DONORS.
 - 164 EMBRYOS FROM 16 FEMALES DONORS AND 8 MALES DONORS.



CONCLUSIONS AND FUTURE ACTIVITIES.

- The establishment of genebanks must be an **ongoing process** and is far more complex when the breed is in a critical situation.
- **High value of the material stored in genebanks** for the emergency activities.
- The **combined use of all available reproductive biotechnologies (AI, MOET, IVF) makes possible to build up collections quickly and increase the production of live animals.**
- The **availability of agri-environmental subsidies** is essential to encourage breeders participation in conservation programmes.
- We have rescue Cárdena Andaluza from a critical situation and provide options for its survival in the future.
- In Spain, we have the **human and material resources**, as well as the regulations, to rescue a livestock breed, even in critical situations.
- The result achieved has been made possible by the excellent **cooperation and coordination between various public bodies** (together with the breeders' association). This is a lesson we must learn, remember and implement in similar situations.

.....AND

The breeders society must continue the conservation activities, due to new funding regulations; and the promotion of the breed products consumption by the **Logo Raza Autóctona**





THANK YOU