

ANIMAL SELECTION AND REPRODUCTION CENTER (CENSYRA) COLMENAR VIEJO

GENEBANKING IN MADRID

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AFFILIATION AND OBJECTIVES


ANIMAL SELECTION AND REPRODUCTION CENTER **(CENSYRA)** COLMENAR VIEJO

↓ BELONG




MADRID INSTITUTE FOR RURAL, AGRICULTURAL AND FOOD RESEARCH AND DEVELOPMENT **(IMIDRA)**

↓ AFFILIATED



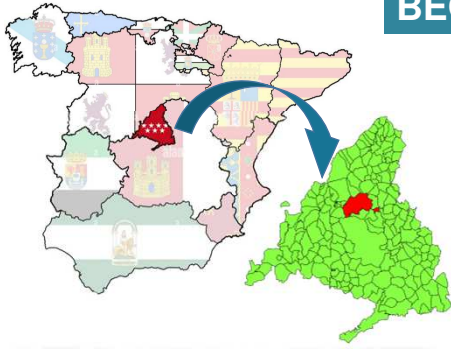
MINISTRY OF ENVIRONMENT, HOUSING AND AGRICULTURE OF THE **COMMUNITY OF MADRID**




MAIN OBJECTIVES:

- Achieve **FASTER AND MORE EFFICIENT GENETIC IMPROVEMENT**
- Support for **BREEDING PROGRAMS**
- Collaborate with **NATIVE LIVESTOCK THREATENED BREEDS**


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BEGINNINGS AND EVOLUTION


- 1968 OPENING** CENSYRA by MAPA
- 1985** Transfer to **COMMUNITY OF MADRID** (Royal Decree 452/1985)
- 1994** Transfer to **Las Cabezuelas** (Agricultural Complex of Colmenar Viejo, now Technology Transfer Center)
- 1998 NATIONAL REFERENCE CENTER AND GERMLASM BANK** (Royal Decree 1866/1998)
- 2011** Designation as **AUTONOMOUS LABORATORY** for analysis of milk samples from the **MILK RECORDING** (Order 4459/2011)
- 2019** Designation as **NATIONAL ANIMAL GENE BANK OF SPAIN** (Royal Decree 45/2019)



First doses collected in CENSYRA **1973**, from Friesian Breed

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CENTER AND FACILITIES

- **LABORATORIES:**
 - ✓ Milk Recording
 - ✓ Genetic Analysis
 - ✓ Animal Reproduction
- **GENEBANKS:**
 - ✓ National Animal Genebank
 - ✓ CENSYRA
 - ✓ Attached
 - ✓ Historic
- **TESTING CENTER**
- **FAIRGROUND**

The laboratories are **ACREDITED** according to **UNE-EN/ISO/IEC 17025:2017** Standard

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SPECIES AND BREEDS WITH WHICH WE WORK

We work with all **LIVESTOCK BREEDERS ASSOCIATIONS** that have representation in the **COMMUNITY OF MADRID** and also with **PRIVATE FARMERS**

AGCLEMA

- Guadarrama Goat
- Molar Blonde Sheep
- Colmenareña Sheep
- Assaf_E

ANABE (Berrenda)

- RAEANI (Black Iberian Avileña)
- National Charoles
- Limusin
- RUCTL (Fighting Breed-Lidia)
- Retinta

THROUGH THE SIGNING OF **AGREEMENTS**






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COLLABORATION AGREEMENT BETWEEN IMIDRA AND ASSOCIATIONS


ACTIVITIES CARRIED OUT BASED ON AGREEMENTS

1. Obtaining, contrasting and conservation of **SEMINAL DOSES**
 - Housing in CENSYRA
 - Collected in farms (maximum 10/year)
2. Preserve **GERMPLASM BANK** of manufactured doses
3. **SPERMIOGRAMS**
4. **LIVESTOCK TESTING AND AUCTIONS**
5. Microsatellite genotyping and **PATERNITY EXCLUSION TEST**
6. Collaboration in **COURSES AND CONFERENCES**
7. Participation in **RESEARCH PROJECTS**




50% discount on prices and if it is **NATIVE** to Madrid, there is a 75% discount

Duration 4 years + prorrogation of 4 years





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CENSYRA GENE BANK: BGC			
COMMERCIAL GENE BANK			
MATERIAL DEPOSITED	NUMBER OF SEMINAL DOSES	NUMBER OF EMBRYO	SPECIES AND BREEDS
SEMEN	60.307		<p>BOVINE: Avileña-Negra Ibérica, Avileña (Var. Bociblanca), Angus, Asturiana valles, Blanco Azul Belga, Berrenda en Colorado y en Negro, Blonda de Aquitania, Charolesa, Fleckvieh, Limusin, Parda Alpina, Pirenaica, Retinta, Wagyu</p> <p>OVINE: Assaf. Awasi, Colmenareña, Lacaune, Manchega, Rubia del Molar</p> <p>CAPRINE: Cabra del Guadarrama</p> <p>EQUINE: PRá, PSI</p> <p>CANINE: Alano Español, Alaskan Malamute, Basset-Hound, Boxer Atigrado, Dogo Canario, Podenco Ibicenco, Rottweiler, Schnauzer</p>
EMBRYO		106	<p>OVINE: Negra de Colmenar, Rubia de El Molar</p>

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ATTACHED GENE BANK: B LABORATORY			
Genebank store all the works in the			
EXTERNAL COLLECTIONS			
↓			
MATERIAL DEPOSITED	NUMBER OF SEMINAL DOSES	SPECIES AND BREEDS	
SEMEN	8.794	<p>BOVINE: Black Iberian Avileña, Charolesa, Berrenda</p> <p>CAPRINE: Guadarrama Goat</p>	

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COLLECTED IN FARMS

Article 10 of Royal Decree 429/2022: **EXCEPTIONS TO REQUIREMENTS FOR THE NATIONAL COMMERCIALIZATION** OF REPRODUCTIVE PRODUCTS





- For creation **GERMPLASM BANKS**
- Collection **BREEDS OF DIFFICULT MANAGEMENT** (in extensive farms)
- Support **CONSERVATION PROGRAMS** for threatened breeds
- **EQUIDES REGISTERED IN STUD BOOKS** that participate in officially recognized **SELECTION OR SPORTING EVENTS**
- Exclusively **SCIENTIFIC, RESEARCH OR TEACHING** purposes


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CENSYRA HISTORICAL GENE BANK: BGHC

This genebank keeps samples of **all donors** which have stayed in the Center







MATERIAL DEPOSITED	NUMBER OF SEMINAL DOSES	SPECIES AND BREEDS
SEMEN	102.472	<p>BOVINE: Asturiana de los Valles, Avileña Negra Ibérica, Avileña Negra Ibérica (Bociblanca), Berrenda en Colorado, Berrenda en Negro, Blanca Cacereña, Blanca de Aquitania, Charolesa, Fleckvieh, Frisona, Limusin, Palmera, Parda Alpina, Pirenaica, Retinta, Rubia Gallega</p> <p>OVINE: Assaf, Awassi, Lacaune, Manchega</p> <p>CAPRINE: Guadarrama, Murciana-Granadina</p> <p>EQUINE: Pura Raza Árabe, Pura Raza Española, Pura Sangre Inglés, Westfaliano, Zangersheide</p>


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USE OF GENETIC MATERIAL STORED IN BANKS






- **SALE OF COMMERCIAL DOSES** for farmers of the Community of Madrid
- **PRIMARIES GERMPLASM BANKS**
- **CONSERVATION PROGRAMS** for threatened breeds and **IMPROVEMENT PROGRAMS**
- **CIENTIFIC, RESEARCH OR TEACHING** purposes
- **NATIONAL ANIMAL GERMPLASM BANK**





GOBIERNO DE ESPAÑA


MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN






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DIFICULTIES AND SOLUTIONS

MAIN PROBLEM: FEW ECONOMIC RESOURCES to develop activities of breeding programs especially **THREATENED BREEDS**





CREATE SELF-FINANCING RESEARCH PROJECTS (FP)

ESPECIALY TO CREATE
PRIMARY GERMPLASM BANKS

INCREASE **ARTIFICIAL INSEMINATION** WITH USE OF IMPROVING MALES

DEPOSIT DOSES TO THE **NATIONAL ANIMAL GENE BANK OF SPAIN**

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IMIDRA 2023 SELF-FUNDED RESEARCH PROJECTS

FP CONCABRAMA

Implementation of Reproduction Techniques and Genetic Selection in the **GUADARRAMA GOAT** Breed to Help Conservation

FP FERTANI

Research Project for the Search of New Aspects that Affect Fertility in **BLACK IBERIAN AVILEÑA** Breed Farms



FP BRAVOCARN

Research to Improve the Knowledge of the **PRODUCTIVITY AND CHARACTERIZATION OF THE MEAT OF BRAVO CATTLE**, of the Fighting Breed and its Quality with the Purpose of Adapting Production to Market Demand

FP CONSERVANIMAL

Implantation of Reproduction Techniques and Genetic Selection in **MADRID LIVESTOCK** to Help Conservation

FP REPROBRAVO

Establishment of Protocols for **OBTAINING POST-MORTEM VIABLE SEMINAL MATERIAL** from Bovine, especially of the **FIGHTING BREED (LIDIA)**

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FP CONCABRAMA

IMPLEMENTATION OF REPRODUCTION TECHNIQUES AND GENETIC SELECTION IN THE **GUADARRAMA GOAT** BREED TO HELP CONSERVATION



Images provided by the Breeders Association




LOCATION	ANIMAL CENSUS	NUMBER OF LIVESTOCKS
Madrid	3.627	9
Castilla -León	3.152	8
TOTAL	6.779	17





Extensive dairy farming in central Spain



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FUTURE PROSPECTS, AN EXAMPLE					 Instituto Madrileño de Investigación y Desarrollo Rural, Agrario y Alimentario	
FP CONCABRAMA 2022-23			→	CREATE PRIMARY GENE BANKS	COLLECTED IN FARMS	
GOAT BREED	STRAW IDENTIFICATION	BATCH	DOSES	TM/PM		
Guadarrama Goat	N 03/05/2022 ES120000210461 AB19030 ES13009 GCU CABRA DEL GUADARRAMA 1	03/05/2022 (1)	210	77/55		
Guadarrama Goat	N 03/05/2022 ES120000210461 AB19030 ES13009 GCU CABRA DEL GUADARRAMA 2	03/05/2022 (2)	137	48/29		
Guadarrama Goat	N 14/11/2022 ES080007801965 CI18213 ES13009 CGU CABRA DE GUADARRAMA 2	14/11/2022 (2)	285	35/26		
Guadarrama Goat	N 15/12/2022 ES080008529514 CN20023 ES13009 CGU CABRA DEL GUADARRAMA 2	15/12/2022 (2)	200	49/37		
Guadarrama Goat	N 08/02/2023 ES080007815188 CM19067 ES13009 CGU CABRA DE GUADARRAMA S1	08/02/2023 (1)	214	60/50		
Guadarrama Goat	N 08/02/2023 ES080007815188 CM19067 ES13009 CGU CABRA DE GUADARRAMA S2	08/02/2023 (2)	184	46/28		
Guadarrama Goat	N 28/02/2023 ES120000294379 BZ20085 ES13009 CGU CABRA DE GUADARRAMA S1	28/02/2023 (1)	194	51/46		
Guadarrama Goat	N 28/02/2023 ES120000294379 BZ20085 ES13009 CGU CABRA DE GUADARRAMA S2	28/02/2023 (2)	131	29/24		
TOTAL VALID DOSES					1.555	

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FUTURE PROSPECTS, AN EXAMPLE			 Instituto Madrileño de Investigación y Desarrollo Rural, Agrario y Alimentario	
<p>FP CONCABRAMA 2022-23</p> <p>↓</p> <p>DIFFICULTIES IN COLLECTED</p> <p>↓</p> <p>ON FARMS</p>				
<ul style="list-style-type: none"> • POOR SEMINAL QUALITY Body condition, feeding and handling of the male. Long distances to the laboratory • Urogenital tract CONTAMINATIONS. (<i>P.multocida, Mannheimia haemolytica/B.trehalosi, Chryseobacterium indologenes, Ralstonia pickettii...</i>) ANTIMICROBIAL RESISTANCES • FARMERS RESISTANT genetic material is for improvement of Association 		 <p>Images provided by the Breeders Association</p>		
COLLECTED DATE	REASON	ELIMINATED DOSES		
12/05/2022	Pasteurella multocida	620		
05/07/2022	Poor motility	430		
14/11/2022	Poor motility	189		
15/12/2022	Poor motility	213		
14/02/2023	Dead	127		
28/02/2023	Poor motility and contamination	233		
TOTAL ELIMINATED DOSES		1.812		

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FUTURE PROSPECTS, AN EXAMPLE

FP CONCABRAMA

↓

JEALOUS SYNCHRONIZATION
 Day 0: sponge placement
 Day 9: PMSG injection + PGF2 α
 Day 11: sponge removal


44-46
HOURS

↓


INSEMINATE

**DOSES OF MALES HOUSING
IN CENSYRA**


COLLECTED DATE	DOSES
24/03/2022	92
22/04/2022	64
06/05/2022	54
13/05/2022	105
23/05/2022	55
15/06/2022	86
26/08/2022	45
16/09/2022	77
07/11/2022	115
05/12/2022	48
20/01/2023	150
23/02/2023	61
18/04/2023	58
16/05/2023	66
TOTAL DOSES	1.076



Cervical insemination with fresh semen Image provided by the Breeders Association



Author: Juan Antonio Martín del Pozo. Sex: Female. Image provided by the Breeders Association



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