



RÉPUBLIQUE
FRANÇAISE

*Liberté
Égalité
Fraternité*

Animal genetic resources in France

ERFP General Assembly, Lyon 2023

National coordination of Animal Genetic Resources in France
SGAE - MASA

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Outline

- Administrative organisation
- EU regulatory framework
- Breeding sector organisation
- Endangered breed status recognition
- In-vivo conservation & sustainable use support

- *In situ preservation > IDELE endangered bovine breeds.*
- *Ex situ preservation > Cryobanque : genbank presentation*

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Administrative organization AnGR in France

- National coordination (FAO) SGAE/ Ministry of Agriculture and Food sovereignty (MASA) – DGPE - BLSA
- Research institute INRAE : Animal genetic resources monitoring and reporting
- Public body “Etablissement Français des produits de l’agriculture et de la mer” FranceAgriMer : **Thematic commission on AnGR, since 2020** :
 - gathers state, research and breeding sector representatives (all species, incl. ABR-species, aviculture and aquaculture), 3 times/year.
 - Research & professional stakeholders, including animal products industries
- No official NS - AP national strategy for genetic resources endorsed yet
 - Several actions (in-vivo, in-vitro and reporting) in place
 - Value of coordination and consistency framework

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Animal breeding EU regulatory framework -1/2

- **Competent Authority EU – Animal Breeding Regulation (ABR)**
 - MASA / DGPE: BCHIC equids vs BLSA ruminants and pigs
 - zoogen.dgpe@agriculture.gouv.fr
 - <https://agriculture.gouv.fr/agrements-dans-le-domaine-zootechnique>
 - Breeding programs approval, modification & extension
 - Breed societies and breeding operations recognition
- Post - ABR enforcement (2018/11) **national legal framework update** :
 - To be completed by the end of 2023
 - Includes dropping pre-ABR national breeding organization in favour of breed societies responsibility
 - Activates ABR article 28 to call data from breeding programs performed onto the national territory for administrative controls, public good research, and **animal genetic resources monitoring** > BDZN Base de Données Zootechniques Nationale (national repository for GR)

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Animal breeding EU regulatory framework - 2/2

- **239** approved breeding programs (ABR article 8)
- **155** extended breeding programs (EU-countries breeding programs extended in France, ABR article 12)
- **99** recognized breed societies and 6 recognized breeding operations (hybrid pigs)
- From now, breed recognition should proceed from a breeding program approval according to ABR for regulated species

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Breeding sector organization - 1/2

- Breed societies
- Federations of breed societies
 - Races de France <https://www.racesdefrance.fr/>
 - CORAM (ruminant mountain breeds) <https://www.races-montagnes.com/>
 - SFET (working horses) : <http://www.sfet.fr/>
 - SCAF (avian species) <http://scaf-aviculture.com/>
 - ELIANCE <https://www.eliance.fr/>
- Conservatories : **local coordination** of conservation and sustainable use of genetic resources, incl. breed societies animation. > Coordinated land development

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Breeding sector organization - 2/2

- Breeding operations & breeding companies
- AI cooperatives / companies, and counseling organizations
- Ruminant breeding sector organization & representation : France Génétique Elevage <http://fr.france-genetique-elevage.org/>
- Technical institutes (IFCE: horses & donkeys; IFIP : pigs, IDELE : ruminants, ITSAP : honeybees, ITAVI : avian & rabbit species with SYSAAF avian, insect & aquatic species)
- Agriculture land bodies (chambres d'agriculture) and local farming bureaux (animal identification)
- Research institutes (INRAE, IRD, CIRAD)

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Endangered breed status recognition

- For endangered breeds recognition, only considering “local” breeds **aka “localized” breeds**, as :
 - where at least 30% of heads are localized within the same administrative department area (~1/100° national territory)
 - or 70% of heads are localized within three neighbouring administrative department areas (3/100° national territory) ;
- For endangered breeds recognition, in addition, only considering (FAO) :
 - **1/ native / autochthonous breeds**
 - **2/ locally adapted breeds** : > 40 years and 6 generations and significant departure from origin population (FAO, ITWG An GR 7th)
- Not considering exotic, regularly imported breeds, largely spread / mainstream breeds
- *Verrier E. et al. (2015) Assessing the risk status of livestock breeds: a multi-indicator method applied to 178 French local breeds belonging to 10 species. Animal Genetic Resources 57, 105-118.*

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N endangered breeds per species

- Only from localized + native/locally adapted breeds
- endangered breed recognition from **thresholds in number of reproductive females per breed** (species reproductive capacity) : EQ 8000 f.; BV 7500 f.; OV-CP 6000 f.; PC 1000 f.; avian species 500 f..
- **Increased thresholds where risk factors are identified** : proportion of non-breeding females, recent trend, Ne, health risk, breeders organization & breeders economic performance.
- **Revised 2023 : 168 breeds**, including 93 breeds from ABR regulated species (and 75 avian species)
- <https://agriculture.gouv.fr/races-menacees-dabandon-pour-lagriculture>
- (includes a 2023-revised of INRAE study in french)

	Eq.cab	Eq.asi	BV	OV	CP	PC	Duck	Goose	Gallus	Turkey
N (2023)	18	8	25	26	9	7	9	12	46	7

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In-vivo conservation : EU CAP support

- EU Endangered breeds protection (“PRM”) included in the FR CAP Plan (previous 2015-2022 & current 2023-2027 programs) as an agri-environment-climate measure (“MAEC”).
- Action 70.30 in France current NSP for CAP : Endangered breeds protection
- Conditioned to **national recognition** of Endangered Animal Breed status
- **Regional management** of priorities, breeds included among recognized EAB
- Financial management at regional level (the same breed may be supported in some but not all areas).
- “Protection races menacées” MAEC PRM funding. ~ 7 M€/y (EU & national)
- **Per head yearly support, e.g. conditioned to effective purebred effective breeding**

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In-vivo : national support program

- Ruminant / Equine breed societies support with a specific focus for localized & endangered breeds : tender schemes, call for agroecological MYPOW
- Ruminant localized & endangered breeds **support to breed societies** > 1,3 M€/y
- Services of general interest for territory development and genetic resources diversity:
 - AI in remote areas (long distance shipping/AI tech move support)
 - AI in endangered breeds : 8 €/EAB AI cattle, 2.5 €/localized breed AI. : 300 000 €/y
 - Considering supporting additional breeding services in remote areas (under study)
- Technical institutes support & Research institutes support
- No (more) direct support of breeding databases, or genetic evaluation per se : breed societies responsibilities & duties.

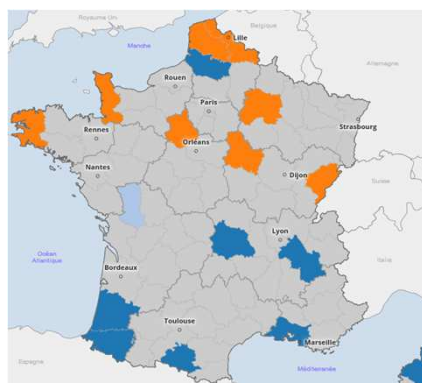
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Endangered equine breeds (18)

- *Trait Ardennais*
- *Cheval Percheron*
- *Cheval Auxois*
- *Trait du Nord*
- *Cheval Boulonnais*
- *Cheval Breton*
- *Trait Comtois*
- *Cob Normand*
- *Trait Poitevin Mulassier*
- *Cheval Castillonnais*
- *Cheval de Mérens*
- *Cheval du Vercors de Barraquand*
- *Cheval Corse*
- *Cheval Auvergne*
- *Poney Pottok*
- *Cheval Camargue*
- *Poney Landais*
- *Cheval Henson*

Draft horses



Land horses : outdoor & mountain adaptation, eco-grazing

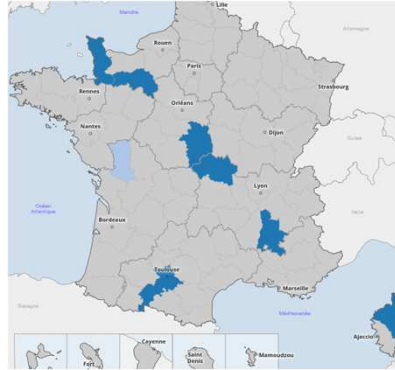
Large range of size, outdoor adaptation & working abilities

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Endangered donkey breeds (8)

- *Ane Grand Noir du Berry*
- *Ane Bourbonnais*
- *Ane Corse*
- *Ane du Cotentin*
- *Ane Normand*
- *Baudet du Poitou*
- *Ane de Provence*
- *Ane des Pyrénées*



Working animals in market gardening
(donkey milk / soap)

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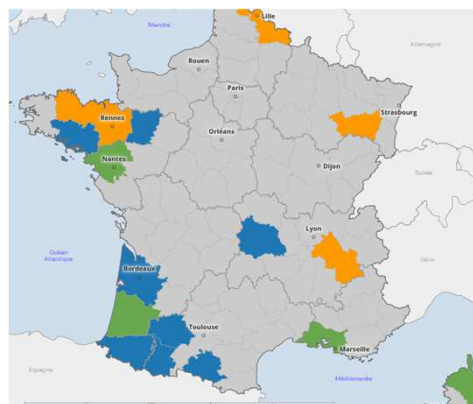
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Endangered cattle breeds(25)

- *Armoricaïne*
- *Bazadaise*
- *Béarnaise*
- *Bleue de bazougers*
- *Bleue du Nord*
- *Bordelaise*
- *Brave*
- *Bretonne Pie Noir*
- *Casta*
- *Corse*
- *Créole de Guadeloupe*
- *Ferrandaise*
- *Froment du Léon*
- *Lourdaise*
- *Maraichine*
- *Marine Landaise*
- *Mirandaise*
- *Moka*
- *Nantaise*
- *Raço di Biou*
- *Rouge Flamande*
- *Saonoise*
- *Villard de Lans*
- *Vosgienne*
- *Zébu Mahorais*

Ancient dairy breeds

Wetland & open land grazing

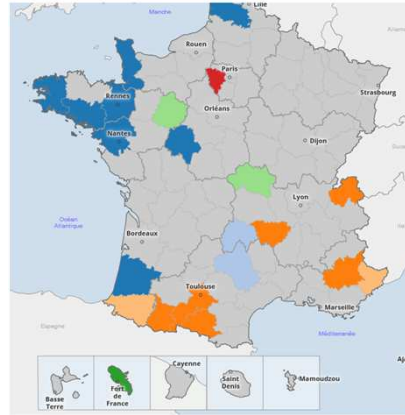


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Endangered sheep breeds (26)

- *Aure et Campan*
- *Avranchin*
- *Barégeoise*
- *Belle Ile*
- *Berrichon de l'Indre*
- *Bizet*
- *Bleu du Maine*
- *Boulonnaise*
- *Brigasque*
- *Castillonnaise*
- *Caussearde des Garrigues*
- *Cotentin*
- *Landaïse (Gascogne)*
- *Landes de Bretagne*
- *Lourdaise*
- *Martinik*
- *Mérinos de Rambouillet*
- *Mérinos précoce*
- *Montagne noire*
- *Noir du Velay*
- *Ouessant*
- *Raïole*
- *Roussin de la Hague*
- *Sasi ardi*
- *(locally adapted) Southdown*
- *Thônes et Marthod*



Wet land grazing

Mountain breeds

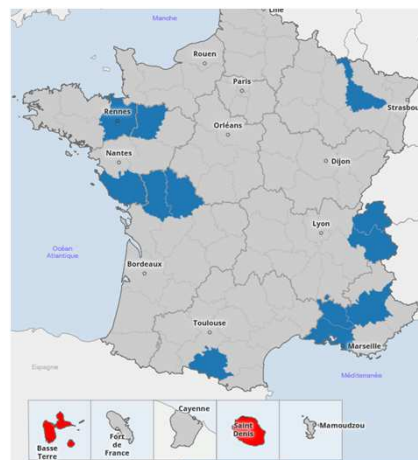
Milk production

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Endangered goat breeds (9)

- *Créole*
- *Fossés*
- *Lorraine*
- *Massif central*
- *Peï*
- *Poitevine*
- *Provençale*
- *Pyrénéenne*
- *Savoie*

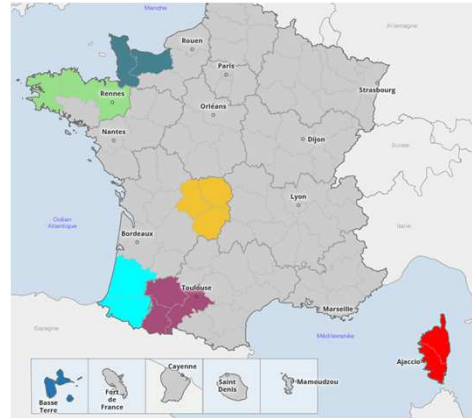


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Endangered pig breeds (7)

- *Créole de Guadeloupe*
- *Cul noir Limousin*
- *Gascon*
- *Nustrale (Corsica)*
- *Pie noir du pays basque*
- *Porc blanc de l'ouest*
- *Porc de bayeux*

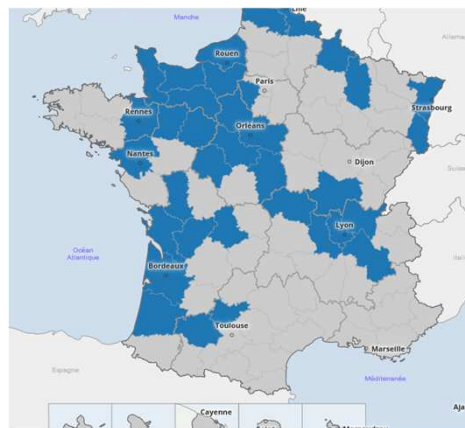


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Endangered chicken breeds (46)

- | | |
|-----------------------------------|-----------------------------|
| • <i>Alsacienne</i> | • <i>Gasconne</i> |
| • <i>Aquitaine</i> | • <i>Gâtinaise</i> |
| • <i>Ardennaise</i> | • <i>Gauloise</i> |
| • <i>Sans queue des Ardennes</i> | • <i>Géline de Touraine</i> |
| • <i>Barbezieux</i> | • <i>Gournay</i> |
| • <i>Bourbonnaise</i> | • <i>Grise du Vercors</i> |
| • <i>Bourbourg</i> | • <i>Hergnies</i> |
| • <i>Bresse Gauloise</i> | • <i>Houdan</i> |
| • <i>Caumont</i> | • <i>Janzé</i> |
| • <i>Caussade</i> | • <i>Javanaise</i> |
| • <i>Charollaise</i> | • <i>La Flèche</i> |
| • <i>Grand Combattant du Nord</i> | • <i>Landaise</i> |
| • <i>Petit combattant du Nord</i> | • <i>Le Mans</i> |
| • <i>Contres</i> | • <i>Le Merlerault</i> |
| • <i>Cotentine</i> | • <i>Limousine</i> |
| • <i>Cou nu du Forez</i> | • <i>Lyonnaise</i> |
| • <i>Coucou de France</i> | • <i>Mantes</i> |
| • <i>Coucou de Rennes</i> | • <i>Marans</i> |
| • <i>Coucou des Flandres</i> | • <i>Meusienne</i> |
| • <i>Courtes Pattes</i> | • <i>Poule de Challans</i> |
| • <i>Crèvecoeur</i> | • <i>Poule du Berry</i> |
| • <i>Estaires</i> | • <i>Pavilly</i> |
| • <i>Faverolles française</i> | • <i>Pictave</i> |



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Endangered goose (12), duck (9) & turkey (7) breeds

- *Oie blanche du Poitou*
- *Oie de Toulouse à bavette*
- *Oie d'Alsace*
- *Oie de Toulouse sans bavette*
- *Oie du Bourbonnais*
- *Oie de Touraine*
- *Oie de type Bavent*
- *Oie Flamande*
- *Oie des Landes*
- *Oie grise du Marais*
- *Oie normande*
- *Oie normande huppée*
- *Canard de Duclair*
- *Canard de l'Allier*
- *Canard de Bourbourg*
- *Canard de Challans*
- *Canard de Rouen français*
- *Canard d'Estaires*
- *Canard cou nu*
- *Canard de Vouillé les Marais*
- *Canard kriaxera*
- *Dindon Rouge des Ardennes*
- *Dindon du Gers*
- *Dindon Porcelaine*
- *Landais*
- *Dindon du Bourbonnais*
- *Noir de Gascogne*
- *Dindon de Sologne*

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Thank you for your attention !

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