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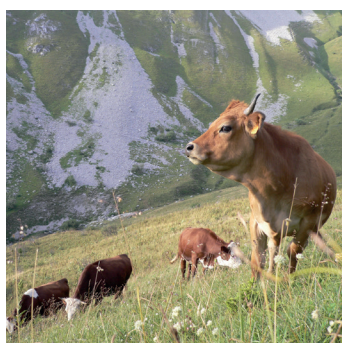
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UMT Pastoralisme

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2026 INTERNATIONAL YEAR OF RANGELANDS AND PASTORALISTS

Research on pastoralism in France: state of play and key issues

A working group of around thirty people from different disciplines within INRAE's Joint Research Units (Animal scientists, Geneticists, Economists, Agronomists, Environmental scientists, Sociologists, Geographers) is structuring a reflection on the contribution of research to the preservation, adaptation and development of pastoralism.



Form of livestock farming subject to many change drivers

Pastoralism is far from a relic of the past. It is a form of livestock farming based on animal mobility that enhances and renews rangeland vegetation through grazing. It can be described as agro-ecological and a source of inspiration for how to use rangelands in ways that provide benefits ecologically, economically, and socially now and in the future. In France, research into pastoralism is considering the dynamics of current issues:

- **Societal and environmental changes**, regarding the management of animal species, some of which are predators of livestock (wolf, bear, lynx...), and, more broadly, the desire of environmental NGOs to promote the "rewilding" of some grazing lands.
- **Territorial dynamics**, in particular the increasing multiple-use of mountainous and Mediterranean areas, which have often become recreational areas, as well as the encroachment of dominant grasses, forbs, shrubs, and trees into ungrazed areas.
- **Climate change**, with the challenges of adaptation and mitigation, questions about the role of pastoralism in GHG emissions, but also in carbon sequestration and storage, the challenges of water access and storage, and risk prevention (e.g., wildfires, floods).
- **Public policies**, with the recent reform of the European Common Agricultural Policy and recurrent support for farms in the mountains and other disadvantaged zones.
- **Concerns about the sustainability of food systems**, due to (i) price volatility, both for inputs and products, (ii) changes in the value chain and stakeholders' strategies, and (iii) growing consumer awareness of the links between their health and food quality (nutrition, organoleptic qualities, herbicides and pesticides). And moreover, producers and consumers are increasingly interested in the role of agriculture in the preservation of biodiversity, landscapes, soil, and water quality.
- **Low incomes for breeders and herders, promotion of gender equality, insufficient renewal of the workforce.**

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What are the topics of interest for the future?

The working group has identified at least six topics of interest, both for research and for developing these forms of livestock farming:

Data quality, interoperability and accessibility to understand the transformations underway and map out the future.

These data provide information on the dynamics of farming systems, herds and vegetation. They also cover more specific issues such as the attacks by predators and the quality of pastoral facilities (e.g. herders' cabins) and equipment (e.g. artificial water points). The models used to explain temporal and spatial dynamics are often compartmentalized, making it difficult to link climate change, changes in land use, evolution of biodiversity and agricultural dynamics. The goal will be to understand how they can be better interconnected.

Animals in pastoral situations: specific expectations?

In livestock farming systems with a pastoral component, animals are subject to various hazards (availability of fodder and water resources, weather, etc.) and their ability to cope with them is a key factor. Herd management is based on creative responses to variability and diversity, building the capacity of a farming system to adapt to an uncertain environment. These practices combine (i) the choice of one or more breeds or animal populations, (ii) the construction of diversified productive trajectories, notably through the choice of the setting for reproduction, and (iii) the learning and habituation of animals to behave efficiently on rangelands. Collective management of animal populations guides selection practices, and therefore the aptitudes of breeds or genotypes chosen by breeders.

Pastoralism: what kind of agro-ecological model?

By definition, pastoralism requires the ability to observe the environment, the animals and their interactions and adapt to hazards, spatiotemporal variability and uncertainty in forage, climate, predation, etc. Moving towards more agro-ecology means exploring ways of redeploying pastoral activities involving herds and the diversity of herbaceous, shrubby and wooded rangeland resources, as well as their combination with other resources (cultivated pastures and/or forage given indoors), and designing and evaluating farming systems organized around these practices. The aim is also to develop appropriate training itineraries for farmers and herders.

Pastoral activities enhance the value of these lands

Pastoral activities enhance the value of several kinds of lands for a wide range of people. The challenge is to model the interactions between the diversity of livestock farming systems, the use of rangelands by herds and ecological dynamics including encroachment by dominant plant species and related biodiversity trends. The models will provide different scenarios for debates and decision-making by the many stakeholders interested in the future of livestock farming. Knowledge production also focuses on understanding different relationships among people in lands used by different agricultural sectors as well as among the value chains themselves. These analyses are essential to support the design and evolution of public policies, both specific to pastoralism and to more generic issues: EU's CAP, market policies or different relationships between people involved in territories and agricultural sectors dynamics.

Multiperformance approaches

Whether at the level of the livestock farm or a territory, the specific features of the pastoral world call into question multiperformance approaches. These approaches combine technical and economic efficiency and productivity, ecosystem services, resilience to hazards, and capacity to generate employment with economic, environmental and social dimensions of sustainability. The multifunctional nature of pastoralism calls for rethinking criteria and indicators that can cover both internal (systems and their properties in uncertain environments) and external (territorial stakeholders and society) elements of sustainability.

Pastoralism involves different types of professions

Pastoralism involves different lines of work seen as professional worlds (skills, know-how...), but also seen as working statuses (farmer, family worker, mountain summer pasture employee) and work agreements (farmers' associations, company employees, employees of pastoral collectives...). A wide range of know-how brings into play the technical and social intelligence required to comprehend the relationship between animals and their environment and natural resources, as well as their adaptive capacity.

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