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Editorial

The Year the World Turned Its Attention to Rangelands and Pastoralists: Science, People, and Nature

El año en que el mundo miró hacia los campos naturales y los pastores: ciencia, personas y naturaleza

O ano em que o mundo olhou para os campos nativos e os pastores: ciência, pessoas e natureza



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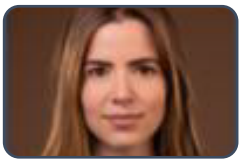

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The year 2026 was declared by the United Nations as the International Year of Rangelands and Pastoralists (IYRP). This designation provides a unique opportunity for the global community to recognize the ecological, economic, and cultural significance of rangelands and to acknowledge the fundamental role of pastoralists as their stewards. Globally, rangelands occur on every continent except Antarctica and Greenland, covering approximately 43% of the Earth's terrestrial surface and supporting nearly 792 million people (Gibson & Newman, 2019). In addition, more than one billion people participate in the value chains associated with pastoralism. The initiative, jointly promoted by Mongolia and Uruguay, reflects the outstanding importance of these ecosystems to both countries.

Uruguay lies within the **Río de la Plata Grasslands** ecoregion (Soriano et al., 1992), encompassing 21.2% of its total area. Approximately 57% of the country's land surface remains covered by **Campos**, the natural grassland formation of southern South America recognized in the international grassland terminology (Allen et al., 2011), and is used primarily for grazing domestic herbivores (MapBiomas Uruguay, 2025).

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Scientific interest in the **Campos** dates back to the late nineteenth century, when the Arechavaleta's botanical descriptions documented the composition of their plant communities and flora, highlighting the remarkable diversity of grasses that characterizes these ecosystems. During the first half of the twentieth century, pioneering studies by Spangenberg, Van de Venne, Rosengurtt, and others substantially advanced the understanding of the forage value of the dominant grass species and their role in livestock production, establishing the scientific foundations for the management and sustainable use of the **Campos**.

Over the following decades, research on the **Campos** became firmly established through the contributions of successive generations of scientists at the **Universidad de la República** (Udelar) and the **Centro de Investigaciones Agrícolas Alberto Boerger** (Alberto Boerger Agricultural Research Center), further strengthened by the establishment of the **Instituto Nacional de Investigación Agropecuaria** (National Agricultural Research Institute, INIA) and the **Secretariado Uruguayo de la Lana** (Uruguayan Wool Secretariat, SUL). Together, these institutions have played a pivotal role in integrating Uruguay into the regional and international scientific community devoted to grassland research. Milestones in this scientific progress are reflected in the proceedings of national conferences and symposia (Boggiano et al., 2023; Gómez Miller & Albicette et al., 2005; Instituto Nacional de Investigación Agropecuaria et al., 1990).

This body of research has led to the development of sustainable intensification strategies that integrate ecological process-based approaches with input-dependent technologies. This perspective was synthesized by Jaurena et al. (2021), who proposed a conceptual framework for grazing systems in which the **Campos** constitute the foundation of the production system, complemented by a flexible set of management modules that enhance productivity, strengthen resilience, and improve the provision of ecosystem services while maintaining ecological integrity.

Today, the scientific agenda extends well beyond the traditional goal of increasing **Campos** productivity. The **Campos** are increasingly recognized as multifunctional ecosystems, where the challenge is to produce more while simultaneously enhancing ecosystem services. Conserving these ecosystems requires recognizing the value of their extraordinary floristic diversity, which supports a rich native fauna, represents an invaluable reservoir of forage germplasm, contributes to climate-change mitigation through carbon sequestration, provides a resilient forage base under increasingly variable climatic conditions, sustains livestock production that makes a substantial contribution to food security, and safeguards the provision of high-quality freshwater.

The **Campos** should therefore be regarded as a strategic form of natural capital, whose conservation and sustainable management extend well beyond short-term economic considerations. Their ecological complexity and dynamic nature demand multidisciplinary, long-term research programs capable of capturing ecological processes that unfold over decades. Long-term experiments are indispensable for understanding ecosystem responses to management practices and for generating the scientific evidence needed to support policies that reconcile agricultural production with biodiversity conservation and the sustainable use of natural resources.

In Uruguay, this long-term vision is embodied in the **Campos** experimental platforms established at **INIA Tacuarembó**, **INIA Treinta y Tres**, the **Estación Experimental Prof. Bernardo Rosengurtt** (Bernardo Rosengurtt Experimental Station, FA-EEBR), and the **Estación Experimental Mario A. Cassinoni** (Mario A. Cassinoni Experimental Station, FA-EEMAC). These research platforms provide an exceptional opportunity to understand ecosystem dynamics across temporal scales and to ensure that management decisions made today contribute to preserving the resilience, biodiversity, and multifunctionality of the **Campos** for future generations.

Beyond their ecological and economic importance, the **Campos** represent a unique social and cultural heritage. They sustain thousands of farming families in Uruguay and throughout the world, many of them operating small- and medium-sized family farms. In doing so, they generate employment, strengthen the rural social fabric, and

support local economies. At the same time, the **Campos** embody generations of pastoral knowledge, traditions, and land stewardship practices that have shaped the rural landscapes of southern South America. Conserving these ecosystems therefore means preserving not only biodiversity and natural capital, but also cultural identity, traditional ecological knowledge, and a way of life that has evolved in close harmony with nature.

Despite their immense ecological, productive, and cultural value, communicating the importance of the **Campos** remains one of the greatest challenges the scientific and agricultural communities face. Increasing urbanization has progressively distanced society from pastoral landscapes and the production systems they sustain, widening the gap between people and one of the world's most extensive terrestrial ecosystems. Bridging this divide requires framing the **Campos** within the broader **One Health** perspective, recognizing the close interdependence between healthy ecosystems, healthy animals, healthy people, and resilient rural communities. Strengthening this narrative will be essential to foster greater public appreciation of grasslands, inform public policies, and secure long-term support for their conservation and sustainable management.

In Uruguay, the International Year of Rangelands and Pastoralists has been embraced as an opportunity to strengthen connections among researchers, producers, students, schoolchildren, policymakers, and the broader society, fostering a deeper appreciation of the ecological, productive, and cultural importance of the **Campos**. Throughout this commemorative year, a broad national agenda of scientific, educational, and outreach activities has brought together institutions and stakeholders committed to the future of these ecosystems.

The year also carries particular significance because it coincides with the **49th anniversary of the Grupo Técnico Regional del Cono Sur en mejoramiento y utilización de los recursos forrajeros del área tropical y subtropical** (Southern Cone Regional Technical Group on the Improvement and Utilization of Tropical and Subtropical Forage Resources, Grupo Campos), a milestone that will be celebrated during its commemorative meeting in Uruguay. The authors of this editorial have the privilege of serving on the organizing committee of this event, which represents nearly five decades of scientific exchange, regional cooperation, and collective commitment to the ecology, management, and conservation of the **Campos** and other South American grasslands.

As the world celebrates the International Year of Rangelands and Pastoralists, Uruguay has a unique opportunity to reaffirm the global significance of the **Campos**. Their future will depend on our collective ability to integrate scientific knowledge, sound public policies, sustainable livestock production, and societal engagement. Investing in the conservation and sustainable management of the **Campos** is not only an environmental imperative but also a strategic investment in biodiversity, climate resilience, food security, rural livelihoods, and the well-being of future generations.

For more than a century, the **Campos** have demonstrated how scientific knowledge can transform the management of natural ecosystems without losing sight of their ecological, social, and cultural values. As the International Year of Rangelands and Pastoralists comes to an end, this legacy provides not only reasons for celebration but also a responsibility to sustain the long-term research, stewardship, and cooperation required to ensure that the **Campos** continue to inspire rangeland science worldwide.

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