

THE BEGINNING OF A NECESSARY DIALOGUE

Braulio Soto-Cerda^a, David Alors Rodríguez^b, Jimmy M. Pincheira Ulbrich^c, Daniela Tapia Escarate^d, Víctor Navarrete Acuña^e

Correspondencia: Braulio Soto-Cerda (bsoto@uct.cl).

The science exploring natural resources and agricultural and forestry production systems rarely resides within a single language, geography, or discipline. Instead, it emerges from the intersection of the field and the laboratory, ecology and agronomy, the Global North and the Global South, and the fundamental question and applied urgency. It is precisely within this convergence that the **Journal of Natural Resources and Farming (JONRAF)** is born.

This inaugural issue arrives with broad ambitions and a firm conviction: research in biological, environmental, agricultural, and forestry sciences requires dissemination channels that are open, rigorous, and inclusive of the diverse questions facing our ecosystems and rural communities today. JONRAF aims to serve as that channel. As an open-access, multidisciplinary journal, we seek to publish research that contributes to the understanding and sustainable management of natural resources, whether the results are confirmatory or negative, exploratory or conclusive. Honest science, in all its forms, has a place here.

This first volume brings together five original articles that collectively illustrate the thematic and geographical diversity we aspire to represent. In the field of mathematical agroecology, William Campillay-Llanos proposes a theoretical model to understand how the reduction in insect body size—a phenomenon associated with climate change—affects the structure of food chains characterized by birth pulses. The study is grounded in a realworld system from southern Chile: watermelon as the host resource, the cotton aphid (*Aphis gossypii*) as the pest, and the Chilean predatory ladybird (*Eriopis chilensis*) as the biological control agent. Utilizing impulsive differential equations and computational simulations, the author demonstrates how the body size of interacting species profoundly alters population dynamics, offering a theoretical tool with potential applications in the design of agroecological management strategies.

In the realm of genomics and plant breeding, Edith Severo Cid, Branko Contreras-Beltrán, and Braulio Soto-Cerda present a study on tolerance to phytotoxic aluminum in flax (*Linum usitatissimum*) in the acidic soils of southern Chile. Using 2,200 SNP markers and phenotypic trials in Andisol soil from the Araucanía Region, the authors characterized the genetic structure of 40 accessions and identified three tolerant genotypes—G188, G87, and G401—that exhibit superior root performance under aluminum stress. These findings have concrete implications for breeding programs aimed at improving crop adaptation to acidic soils, which are predominant throughout southern Chile.

The third article takes us to Nigeria, where Onyemachi Lauretta Adaku, Emeka Donald Anyanwu, and Amarachi Grace Stephen assess the suitability of the Anya River, in the country's southeastern region, as a drinking water source for rural communities. Through the analysis of eight heavy metals, pollution indices, and non-carcinogenic health risk assessments for both adults and children, the study concludes that the river water is unsafe for human consumption. Hexavalent chromium, lead, nickel, and cadmium were identified as the primary drivers of health risk, with a disproportionate burden falling on children. This work highlights the urgent need for environmental monitoring and access to safe water in rural communities across developing countries.

Also from Nigeria, Grace Dachung, Aperaga Ushahemba, and David Ekhuemelo explore perceptions of climate change among agroforestry farmers in Gwer East, Benue State. Drawing on interviews with 292 producers, the study shows that most farmers recognize the effects of climate change—such as extreme heat, droughts, and crop losses—although their understanding of its underlying causes remains limited. Educational attainment proved to be the most consistent predictor of climate awareness,

while tree planting emerged as the dominant mitigation strategy. The authors underscore the need for modern technologies, access to credit, and agricultural extension services as fundamental pillars of effective adaptation.

Finally, from Spain, Jordi Martínez-Jordà and Salvador Chiva contribute a floristic inventory of Gaianes, a small locality in Alicante nestled within the Benicadell Mountain Range. The study documents 14 new species records for the region, including vascular plants, bryophytes, and fungi gathered across five distinct microhabitats. This work highlights the importance of local floristic inventories as fundamental tools for the conservation of unique Mediterranean ecosystems, demonstrating that even small, seemingly well-documented areas can still yield significant scientific discoveries.

Five articles, four countries, multiple disciplines. This first issue of JONRAF does not aim to be exhaustive, but rather inaugural. We invite researchers from around the world to join this conversation, submit their work, and help us build a journal that rises to the challenges facing natural resources and agricultural systems across our planet today.

Welcome to JONRAF.

Editorial - Journal of Natural Resources and Farming (JONRAF)

Este trabajo está sujeto a una licencia de Reconocimiento 4.0 Internacional Creative Commons (CC BY 4.0).

