La granja:
Revista de
Ciencias de la Vida

Editorial

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Dear reader:

It is an honor to present Volume 40 of the La Granja Journal. This edition features a Special Issue on the "Effects of the El Niño Southern Oscillation on Priority Sectors in the Region", highlighting the efforts of researchers dedicated to understanding the influence of anthropogenic climate change on public health, contributing to the management of the health sector.

From a regional perspective, Molleda & Velásquez Serra offer a review titled "El Niño Phenomenon and the Prevalence of Infectious Diseases", exploring the relationship between changes in precipitation and temperatures during "El Niño" periods and the prevalence of various infectious diseases, including viral, bacterial, parasitic, and fungal illnesses. The authors establish a clear link between extreme climatic events and the increase in diseases such as leptospirosis, dengue, and respiratory illnesses, underscoring the need to enhance epidemiological surveillance protocols and early warning systems to control disease outbreaks.

At a local scale, the study by Vilema-Escudero & Manya, titled "Climatic Risk in Local Health Services in Ecuador", provides an analysis of the impact of climate risk caused by weather events associated with the El Niño phenomenon on public health services in 221 municipalities across Ecuador. The authors reveal that healthcare coverage and community resilience are key factors positively influencing society's capacity to recover from adverse climate effects. One of the most significant findings highlights the need to incorporate local geographical particularities in determining climatic risk and improving the quality of health information in sectoral planning strategies to strengthen decision-making processes.

Continuing with our miscellaneous articles, the work "Ecological, Economic, and Social Impacts of the Colombian Cocoa Sector" by Diego Iván Cavieses and Fabián Parra of the Universidad Cooperativa de Colombia, along with Karla Andrade of Kyoto University, Japan, analyzes the effects of cocoa production in Colombia. Using a systematic review based on the Joanna Briggs Institute, the authors identify 59 key impacts in the country's main production regions, emphasizing the relevance of these findings for the sector's sustainable development. From the field of conservation, Ricardo Villalba-Briones and Edwin Jiménez of the Escuela Superior Politécnica del Litoral, Ecuador, Allison Rezabala (Independent Consultant), and Martin Aguirrebengoa of the University of Granada, Spain, examine how conservation temperature influences the viability of Cavanillesia platanifolia seeds, an endangered species. The study found that cold storage improves emergence rates and reduces seedling mortality, suggesting its potential for reforestation plans in the Neotropics.

Similarly, Julia Martínez and her team from the Universidad del Azuay, Ecuador, address the issue of urban noise pollution in Cuenca, analyzing 31 points across the city and revealing that in most of the analyzed areas, noise levels exceed the national regulatory limits. Additionally, they compared data from sound level meters and sensor nodes, showing a high correlation and emphasizing the importance of calibrating instruments to ensure accurate noise measurements. In the biotechnological sciences, Antonio Pereira de Menezes Filho and his team from the Goiano Federal Institute, Brazil, investigate the impact of metal incorporation on the biodegradability and antimicrobial properties of arrowroot starch-based biodegradable films. The study demonstrates that the addition of metal sulfates and chlorides significantly improves biodegradability, UV resistance, and bacterial inhibition, suggesting the potential of these films for applications in biodegradable packaging with enhanced antimicrobial properties.

Omar Malagón and his research team from the Universidad Técnica Particular de Loja, Ecuador, present an exhaustive study on the chemical characterization of the ethanolic extract of Gynoxys cuicochensis Cuatrec, an endemic plant of the Loja páramos. Through advanced techniques such as chromatography and mass spectrometry, they identified two key metabolites: nicotiflorin, a glycosylated flavonoid, and 1,3-di-O-trans-feruloylquinic acid, a phenolic derivative. In the same field, Jessenia Lucero and her team from the Instituto Superior Tecnológico Manuel Encalada Zúñiga, Ecuador, explore the development of biopesticides from Beauveria bassiana, a microorganism with significant entomopathogenic potential. The study highlights the importance of optimizing cultivation and fermentation conditions for large-scale production, emphasizing the relevance of these biotechnologies in reducing synthetic pesticide use and promoting sustainable agricultural practices that ensure toxic residue-free food.

In the agricultural sciences, Peruvian researchers Daniel Paredes-López from the Universidad Nacional Agraria de la Selva, Uriel Aldava-Pardave from the Universidad Nacional Agraria La Molina, and Miguel Morales-Cauti from the Universidad Nacional Mayor de San Marcos, examine the hematological profiles and blood metabolites in guinea pigs reared under an intensive system in the humid tropics. The study reveals that these parameters show significant age-related variations, providing key information for the management and well-being of guinea pigs in intensive production. In the same field, José Alcívar-Cobeña and his team from the Universidad Estatal del Sur de Manabí, Ecuador, and the Instituto de Ciencia Animal, Cuba, present an experimental study to evaluate digestibility in Cobb 500 chickens fed with different levels of Sacha Inchi cake, suggesting it as a viable supplement in broiler diets, with benefits for feed efficiency and animal welfare.

In conclusion, these scientific articles offer valuable knowledge across various research areas. This issue reflects our continued commitment to integrating relevant topics that serve as a starting point in managing strategic sectors to increase population resilience to the adverse effects of climate change. We invite you to delve into these studies that provide relevant solutions to current challenges.

Sincerely,

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