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EDITORIAL

EDITORIAL BY THE SECRETARY GENERAL

Climate Change Impact on Animal Production: A Call for Policy-driven Adaptation and Mitigation

The complexity of real-world biological processes exceeds the representative capacity of models, especially in predicting the impact of climate change on animal productivity. Still, a recent study in "Ecological Economics" reveals that a 1°C global temperature increase would, on average, decrease beef production by 9.7%, with the most significant effects in tropical countries. Poorer nations may face a 27% reduction, compared to 4% in wealthier countries. Conversely, anticipated rainfall increases could boost tropical production by 2.1% but decrease temperate production by 1.9%. Overall the research highlights that global warming disproportionately affects beef production in agriculture-dependent countries.

The study highlights a critical message: climate change's impact on livestock production has profound implications for food security, particularly in impoverished and tropical regions. Global livestock and animal product output will suffer, especially in areas facing challenges like diseases and water scarcity. Mitigation and adaptation policies become imperative to ensure the sustainability of animal production, especially in vulnerable regions. This is crucial not only for economic stability but also to secure food availability in the world's poorest countries.

Adaptation strategies for agricultural systems in the face of climate change involve implementing advanced animal husbandry practices and integrating scientific and technological advancements. However, the effectiveness of these measures hinges on robust policy support. Decision-making processes at the policy level must consider the needs of animal farmers to comprehensively address the challenges they face. In essence, supporting these policies becomes pivotal in ensuring the success of mitigation efforts and securing the future of animal production in the context of a changing climate.

Andrea Rosati

News from EAAP

The 198th Council Meeting

On Thursday, November 23rd, under the guidance of the President, Isabel Casasús, the EAAP Council had a remote meeting, where members engaged in discussions and reviews of recent activities. The focus extended to planning upcoming conferences and services, marking a key moment in shaping the organization's trajectory. The collaborative efforts of the council underscore EAAP's commitment to advancing its mission and fostering excellence in the field. This meeting served as a platform for strategic deliberations, ensuring the continued delivery of impactful conferences, mainly the 2024 Annual Meeting to be held in Florence, the regional meeting that will be held in April in Cyprus as well as services in the future to our members to support science disseminations and research activities, etc.

The 37th Annual Meeting of the Hellenic Animal Husbandry Society

After a short pause, thanks to the National Union of Agricultural Cooperatives (ETHEAS), Greece has re-joined the EAAP! The 37th Annual Scientific Conference of the Hellenic Animal Husbandry Society (HSE) was held with great success from October 3rd to 5th, 2023, in Nea Orestiada, Greece. Around 200 scientists attended 39 presentations in the fields of animal husbandry, nutrition, health and welfare, quality of animal products and animal breeding and genetics. This year the conference had significant relevance as it took place in the context of anniversaries: the 100th anniversary of the founding of the city of Nea Orestiada, the 50th anniversary of the opening of the Democritus University of Thrace (DUTH) and the 10th anniversary of the unexpected loss of Professor Zafeiris Abas (Assistant Professor in Animal Husbandry at the Department of Agricultural Development of Democritus University of Thrace). An honorary commemorative event was held for Prof Zafeiris Abas in the main auditorium having his name, where his exceptional personality and significant contribution in the Greek livestock sector and animal science were highlighted. Co-organizers of the conference were the Ministry of Agricultural Development & Food, the Municipality of

Orestiada and the Faculty of Agricultural & Forestry Sciences of DUTH.



Prof Zafeiris Abas

EAAP meets the Swiss Agroscope team

On November 22nd the EAAP President, Isabel Casasús, and Secretary General, Andrea Rosati, were invited by the President elect, Joël Berárd, to participate to the annual meeting of the Livestock, Feed and Products of Animal Origin Division of Agroscope, the Swiss research centre working along the entire value chain of the agriculture and the food sector. Isabel Casasús gave a speech titled "Fostering synergies within and between animal science societies for the dissemination of science". The objective of the meeting, named "The importance of synergies and dissemination for the future of animal production research", was to discuss the strategy of future research activities of this Division of Agroscope. Along the meetings the EAAP group met former Council member from Switzerland, Veronika Maurer, and Beat Bapst, the representative of the Swiss Association for Animal Science, which is EAAP member.



From left to right: Corine Boss, Joël Berard, Martin Reist, Isabel Casasús, Christian Stricker, Lukas Kilcher and Markus Rombach



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1st Ruminant Feed Efficiency Academy Workshop available video

The “1st Ruminant Feed Efficiency Academy,” held on October 11th, 2023, at Milano Malpensa Center, was a collaboration between EAAP and Selko Trouw Nutrition, exclusively available to EAAP-restricted members. Distinguished speakers like José Santos, Carlo Rossi, Terry Engle, and Antonio Gallo delivered insightful talks on crucial topics in ruminant nutrition. For those who missed the event or wish to revisit the presentations, the EAAP restricted members’ area offers access to the entire day’s content. This collaboration not only showcased exceptional talks but also served as a platform to explore the latest trends and discoveries in the dynamic field of ruminant nutrition. [Click here to see the event!](#)



Abstract Submission for the 2nd EAAP Regional Meeting - Mediterranean Region!

EAAP is glad to inform you that the abstract submission for the 2nd EAAP Regional Meeting **will be launched on December 1st!** The event will be held in Nicosia, Cyprus on April 24th-26th. If you want to discover more, please visit the official [event website](#). **The abstract submission will be open until January 22nd, 2024** and the information to authors about acceptance of the submitted research will

be given by February 25th.

All authors wishing to present papers at the 2nd EAAP Regional Meeting are required to submit the title and abstract of their presentations using the online application tool *EAAP’s Online Management System for Evaluation and Gathering of Abstracts (OMEGA)* available [here](#). Thanks to this EAAP brand-new software you will be able to easily submit and manage your abstracts, edit your profile, ask for support, and more.

When you register, please make sure that you will indicate the presenting author very carefully. Please consider that the presenting author must register as an early bird to guarantee that the submitted abstract is considered for the final programme. Early bird registration deadline is March 1st, 2024.



EAAP People Portrait

Vincenzo Lopreiato



Vincenzo Lopreiato grew up in Vibo Valentia, a small town in the South of Italy, relying mainly on agriculture, livestock, and fishing activities. He developed a deep connection with animals and country life since he was a child, sharing his father's deep love for dairy cows. He attended a high school agricultural institute and during these years, even if still young, he developed a very strong consciousness in embarking an academic research journey, which became really fast a dream of an entire life. Vincenzo's academic career is founded on solid basis: he attended the Università Cattolica del Sacro Cuore of Piacenza for both Bachelor and Master Degree and during these years he had the opportunity to move abroad and complete a stage joining the Animal Nutrition & Health group, AgResearch Grasslands, in Palmerston North, New Zealand, where his main research duties focused on application of methods to measure methane emissions from ruminants and strategies to reduce and mitigate methane productions. During his master's degree, Vincenzo has showed a notable interest for livestock research and the implication on societal issues. [Read the complete profile here.](#)

Science and Innovation

Risk to rely on soil carbon sequestration to offset global ruminant emissions

The text discusses the challenge of climate change, attributing a significant portion of human-induced greenhouse gas (GHG) emissions to food systems, particularly the ruminant sector. It emphasizes the urgency of mitigating GHG emissions from global ruminant systems and explores carbon sequestration in soils as a strategy. The focus is on grasslands, which have higher soil organic carbon (SOC) stocks. However, it notes that soil carbon sequestration is often perceived as temporary, and there's a finite limit to the amount of carbon that can be sequestered. The text criticizes the common practice of expressing climate impact in CO₂-equivalents (CO₂-eq) using global warming potentials (GWPs), arguing that it masks the differences between short- and long-lived GHGs. It introduces GWP* as a way to consider these differences but highlights its criticisms. The text proposes an alternative approach using a climate model to assess cumulative climate impacts over time, considering the differences between short-lived GHG emissions and theoretically long-lived soil carbon sequestration. The analysis concludes that relying solely on carbon sequestration in grasslands to offset ruminant system emissions is infeasible. It suggests that significant increases in grassland carbon stocks would be needed, indicating the time-limited benefit of soil carbon sequestration and the intrinsic differences between short- and long-lived greenhouse gases. [Read the full article on Nature.](#)

Forages and Pastures Symposium: revisiting mechanisms, methods, and models for altering forage cell wall utilization for ruminants

Ruminant animals heavily rely on the intricate polysaccharide matrix found in plant cell walls (CW) as their primary energy source. This involves the production of volatile fatty acids through fermentation processes in the rumen and hindgut. The CW's composition, including polysaccharides, proteins, phenolic compounds, and minerals, affects fibre digestion and the retention of particulate matter in the reticulorumen due to physical characteristics like buoyancy. Manipulating the CW's digestibility involves biosynthetic methods, targeted plant and microbe selection, and various processing techniques such as physical, chemical, microbial, and enzymatic treatments. Efforts to enhance digestibility aim to reduce greenhouse gas emissions from ruminants. Advances in lignin biosynthesis include replacing traditional monolignols with more easily degradable



homopolymers. However, developing reliable laboratory methods to assess the nutritive value resulting from these manipulations is challenging. Acid detergent lignin, though proven as a nutritional entity, lacks consensus in chemical determination and carbohydrate association. Spectroscopy and in vitro gas production techniques are adopted, but disrupting CW during sample processing presents challenges. Mathematical models for ruminal fibre degradation face obstacles due to inconsistent marker results, hindering the advancement of computer models. Overcoming these challenges requires refining laboratory methods to accurately reflect the impact of modern manipulation on CW, fostering environmentally friendly approaches, and addressing data inconsistencies in mathematical models to understand ruminal fibre degradation better. [Read the full article on Journal of Animal Science.](#)





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indigenous ones, and evaluating the role of sheep lines developed through genetic selection to resist stressors. The study delves into how sheep respond to challenges posed by parasites and climate, emphasizing breed variation for producers to select genotypes better equipped for specific stressors. Within-breed selection has successfully generated lines adept at handling environmental stress. Urgent research on traits indicating adaptation to adverse climatic conditions is advocated. Additionally, there is a call to reconsider the conservation of unimproved, indigenous livestock, as they may offer insights into the biology of fitness traits underpinning adaptation. [Read the full article on Animal Frontiers](#):



News From EU

BovReg Final Conference registration available soon!

Join us at the BovReg Final Conference, a culmination of the groundbreaking BovReg project dedicated to advancing bovine breeding through cutting-edge genetic research. Focused on enhancing cattle health, productivity, and sustainability, the project identifies and promotes desirable traits to optimize bovine genetic potential. Celebrating a decade of achievements within the FAANG Initiative, the conference, taking place on **February 14th and 15th, 2024**, in Brussels at the University Foundation, will showcase project results since 2019. We welcome stakeholders from the research community, farmers, breeding companies, decision-makers, and citizens to participate either onsite or online. Don't miss this opportunity to engage with the latest advancements in bovine genetics. Registrations for the event will open soon! Stay tuned for further details [on our website](#).



The rules of the game: will the views of EU citizens make the Commission finally deliver the new animal welfare legislation?

After hitting the rubber wall so many times, we were thrilled by the prospect of new and updated animal welfare legislation, which the European Commission promised to deliver in line with the aims of the EU Green Deal and in the wake of our incredibly successful citizens' mobilisations. It was refreshing for us to finally collect all the science, prepare our concrete asks, and talk about change for billions of kept animals. This week it became clear that, at least for this political term, the European Commission does not intend to deliver all of the promised and much-needed reforms of animal welfare legislation. There are reasons why this is happening and I won't analyse them in detail here. All I can say is that none of

them holds water in a healthy democracy because this backtracking represents a betrayal of the trust millions of European citizens had put in the European Commission to take action for farmed animals. [Read the full article here](#).

Bridging the Gap Between Genomic Research and Applications GENE-SWitCH Final Conference

The final conference of GENE-SWitCH, a Horizon 2020 project, was held as a hybrid event at the University Foundation in Brussels, between 6 - 8 November 2023. GENE-SWitCH has aimed to deliver new underpinning knowledge on the functional genomes of two main monogastric farm species (pig and chicken) and to enable its immediate translation to the pig and poultry sectors. The conference showcased a comprehensive 2-day agenda to report the achievements and impacts of the project, celebrate the 10 years of the Functional Annotation of Farm ANimal Genomes initiative (FAANG) and to host a Policy and Ethics workshops addressing stakeholders. [Read the full article here](#).



Job Offers

Post-doctoral position at INRAE, Toulouse, France

[The GenPhySE unit](#) invites applications for a Postdoctoral Research position of 18 months on the determination of the best similarity matrix to use in multiomics genetic studies depending on the type of omics data (genomic, microbiota, epigenetic...) and on the target objective: variance component estimations, phenotypic and genetic predictions. Deadline: **31 December 2023**. For more info [read the job vacancy](#).

A Post-doctoral position at ETH Zurich, Switzerland

A Post-doctoral position in “Use of salivary oxytocin to explore positive welfare in pigs” is available at [ETH Zurich](#). Successful candidate a highly motivated young researcher with a strong enthusiasm to conduct cutting-edge research in the fields of animal behavior and physiology. Applicants have completed a PhD degree in animal sciences, biology, veterinary sciences, or a related field. For more information [read the job vacancy](#).

Industries

The impact of trace mineral source on the carbon footprint of dairy feed production



A major push is underway within the animal nutrition industry to develop products, programs and practices that will significantly reduce the CO₂e emissions of livestock. It is highly unlikely that any one product, program or practice will, by itself achieve the targeted CO₂e reduction that have been set. Rather, the quest to achieve a significant reduction in livestock based CO₂e emissions will need to be a group endeavor, with several products, programs and practices contributing to a successful outcome.

[Read the full article here.](#)

Canine SkimSEEK™: Low-pass skim sequencing & imputation from Neogen® Genomics

As a global leader in companion animal genomic testing, Neogen offers the platforms, services and expertise needed to enable research and innovation. When exciting discoveries and new insights are made, Neogen provides the strategies and resources to bring those new findings to market where they can be used by researchers, breeders, owners and veterinarians.

Canine SkimSEEK provides low-pass sequence data, enabling deep exploration into the canine genome.

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Publications

- **Animal consortium (EAAP, INRAE, BSAS) – Elsevier Animal: Volume 17- Issue 11 – November 2023**

Article of the month: [“Animal Board Invited Review: The purebred-crossbred genetic correlation in poultry”](#)

Animal Science Podcasts

The Beef Cattle Health & Nutrition: [Dealing with a herd infertility case](#), speaker Dr Zach Johnson.



Hosted by Dr. John Campbell



Other News

Rethinking the Environmental Impact of Meat Swaps

A recent study from Stanford University suggests that making “simple dietary substitutions,” such as opting for chicken over beef and replacing cow’s milk with non-dairy alternatives, could reduce the United States’ dietary carbon footprint by more than 35%. However, these seemingly straightforward solutions, although commonly assumed, may not necessarily be more sustainable and could have significant repercussions on nutrition and public health. The study, which utilized dietary intake data from 7,753 US children and adults, focused on identifying foods with higher greenhouse gas emissions and recommending swaps with a lower carbon footprint. Yet, it’s crucial to adopt a more nuanced approach when assessing food choices, taking into account factors like land use, water use, chemical inputs, and nutritional value. [Read the full article on GlobalFoodJustice.](#)



Strangles in Horses: Survival of Causative Bacterium on Equipment, Fixtures

The bacterium that causes strangles, *Streptococcus equi* subspecies *equi*, transmits easily from horse to horse and from horse to inanimate objects, such as tack, water buckets, and stall doors. Effectively cleaning equipment and fixtures decreases disease transmission, which is important in minimizing spread and recurrence. According to a Swedish research team, *S. equi* is a hardy organism, surviving on wood for 63 days at 36° F (2° C), on glass and wood for 48 days at 68° F (20° C), and in the environment for 34 to 72 days. [Read the full article here.](#)

Conferences & Workshops

EAAP invites you to check the validity of the dates for every single event **published below and in the Calendar of the website**, due to the state of sanitary emergency that World is currently dealing with.

Event	Date	Location	Information
BSAS Dairy Nutrition Conference 2024	10 – 11 January 2024	Birmingham, UK	Website
BSAS Belfast 2024	4 – 11 April 2024	Belfast, Northern Ireland	Website
2nd EAAP Regional Meeting	24 – 26 April 2024	Nicosia, Cyprus	Website
46th Discover Conference	4 – 6 May 2024	Itasca, Illinois, USA	Website
ADSA 2024 Annual Meeting	16 – 19 June 2024	Florida, USA	Website
Joint AAAP & AAAS Animal Production Congress	8 – 12 July 2024	Melbourne, Australia	Website
2024 ASAS ASAS/CSAS/WASAS Annual Meeting	21 – 25 July 2024	Calgary, Canada	Website
International Symposium on Ruminant Physiology (ISRP)	26 – 29 August 2024	Chicago, Illinois, USA	Website
75th EAAP Annual Meeting	1 – 5 September 2024	Florence, Italy	Website
13th World Rabbit Congress	2 – 4 October 2024	Tarragona, Spain	Website

More conferences and workshops [are available on EAAP website](#).



“What world lies beyond that stormy sea I do not know, but every ocean has a distant shore, and I shall reach it”

(Cesare Pavese)

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Become EAAP individual member to receive the EAAP newsletter and discover the many other benefits!

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[Click here to check and register!](#)

The **Flash-e-News** is the Official EAAP Newsletter. This interesting update about activities of the European animal science community, presents information on leading research institutions in Europe and also informs on developments in the industry sector related to animal science and production. The Newsletter is sent to all EAAP Members and supporters. You are all invited to submit information for the newsletter. Please send information, news, text, photos and logo to: marlene@eaap.org.

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