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EDITORIAL

When methane returns to the forefront of the climate scene, ruminants are in great danger!

Until now, among the causes responsible for climate change, carbon dioxide (CO₂) has taken center stage. The increase in CO₂ emissions was blamed for most of the greenhouse effect. The primary role of CO₂ among the main greenhouse gases (CO₂, methane-CH₄, nitrous oxide-N₂O) comes from the fact that it is in the largest quantity and also because the other gases have their global warming potential (GWP) converted to CO₂ equivalents for ease of comparison. A very recent report from the United Nations Environment Program ([available here](#)) shows that cutting human-caused methane by 45% this decade would keep warming beneath a threshold agreed by world leaders. There are multiple benefits to reducing CH₄ including: the rapid reduction of warming, which can help prevent dangerous climate tipping points; improved air quality that can save hundreds of thousands of lives; improved food security by preventing crop losses; and the creation of jobs through mitigation efforts while increasing productivity through reduced heat stress. The reduction of CH₄ emissions has therefore returned to the forefront, both for its effectiveness in reducing the greenhouse effect, for the speed of its action and for several other benefits. For specialists, especially in agricultural sciences, CH₄ has been a very important gas for a long time, even more important than other gases. This importance stems, in my opinion, from five essential characteristics of CH₄, the last 3 of which are specific to ruminant farming. The first characteristic of CH₄ is its strong heating power to warm the earth which places it among the most powerful gases emitted. Indeed one molecule of CH₄ emitted is equivalent to 72 molecules of CO₂ if the calculation is made over 20 years, and 25 times that if the calculation is made over 100 years. This difference also makes it possible to envisage more effective measures aimed at their reduction. This is a disadvantage because CH₄, when emitted, contributes greatly to climate change. It is also an advantage in that the reduction in CH₄ emissions has a much stronger effect on climate change than reduction of other gases.

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Editorial (continues)

The second characteristic of CH₄ is its retention time in the atmosphere which is much shorter than that of CO₂, 12 years instead of 100 years, thus making measures aimed at reducing CH₄ a much faster method to impact climate change. Thus CH₄ released into the atmosphere is a disadvantage but may also be a short term advantage as a method to quickly mitigate climate change.

The third characteristic of CH₄ is the fact that the primary production of CH₄ in agriculture originates from the anaerobic fermentation process that takes place during the digestion of feed in the rumen of ruminants. Ruminants have the incredible property, given to them by Nature, of being able to digest plant feeds that are completely indigestible by monogastrics, especially humans. This is the case with roughage present on the rangelands, such as grass or leaves of certain woody plants. But this incredible process, which combines plant matter with microorganisms permanently present in the rumen and the digestive system of animals, has a relatively low yield and presents "leaks" especially of CH₄ during the fermentation process. This rumination is undoubtedly an advantage because it makes it possible to use agricultural land and fodder that cannot be used by humans and to transform them into products that can be consumed by humans (milk, cheese, meat, animal power). But it is also a disadvantage since this process emits CH₄ in significant quantities. In addition, the more roughage in the ration, the greater the emission of CH₄.

The fourth characteristic of CH₄ is the fact that the management of effluents from large intensive farms, in particular the management of slurry, makes it possible to produce CH₄ directly at the outlet of the treatment tanks. However, this process is often not implemented or is not performed correctly. Controlling this source of CH₄ is costly in terms of investment, but the gas collected and then treated can be re-injected into the domestic heating network. This last advantage more than compensates for the disadvantage of the investment to be made. In addition, better control of CH₄ from slurry also significantly reduces N₂O, which

is also a very powerful greenhouse gas.

The fifth characteristic of CH₄ is an extreme dispersion of animal sources of CH₄ since each ruminant itself constitutes a mini source of CH₄. Therefore, ruminants represent nearly two billion sources of CH₄ that would need to be controlled around the world to hope to reduce emissions, which I readily agree would not be easy. This situation is very different from that encountered in controlling CO₂ emissions from factories or transport, for example, and requires completely different approaches. This extreme dispersion is favorable to the use of many landscapes by ruminants, from the arid rangelands of Africa to the intensive pastures of New Zealand or Europe, to the production of financial income by small producers in many countries. However, this dispersal of multiple sources of CH₄ around the globe creates a dilemma because it is necessary to individually control nearly two billion sources in order to hope to reduce their CH₄ emission.

These characteristics of CH₄ also mean that, in my opinion, since CH₄ has recently returned to the forefront of the global challenge of climate change, ruminant farming is in great danger. The need to act quickly now to limit the global damage of greenhouse gases and to act decisively so that the mitigating effects on climate change are easily visible, will require an indispensable global agreement to hope to control this cross-border and cross-continent phenomenon. These outcomes may put ruminant livestock farming in great danger. Indeed, the easiest method to lower atmospheric CH₄ would be to reduce ruminant numbers by carrying out, abruptly, a massive slaughter of a portion of the population. I don't want to "play Cassandra" or give bad ideas to those who don't have them, but I'm willing to believe that public policy makers could agree on a massive plan of ruminant population reduction, primarily cattle. Such a measure would more easily be accepted by a predominantly urban population, far from breeding and breeding areas, a growing part of which sees animal products as food harmful to health and livestock as a cruel and inhuman practice. The areas freed up in this way, such as mid-mountain areas or in rangelands with low rainfall, could then be dedicated to the establishment

of forests conducive to carbon storage, thus reducing the presence of CO₂ in the atmosphere.

Paradoxically, such an extreme measure, if it were applied, would also be much more effective with regard to CH₄ emissions, if it was preferentially addressed to systems with low productivity, such as extensive users of rough fodder not usable by humans. Intensive systems, heavy users of cereals and legume cakes, due to their lower CO₂ footprint per kg of product, would preferably be spared. We would thus see the small producers, whose animals produce little but have other interesting and important properties (valuation of less productive surfaces, supply of a labor force, production of manure good for the soil, family savings), being the main targets of these urgent and drastic emission reduction measures. This would, of course, be totally unacceptable.

To avoid this disaster scenario, scientists and producers must take up the challenge of reducing CH₄ emissions and thus help ruminant farming play a very positive role in mitigating climate change. There are solutions derived from the characteristics of CH₄ mentioned above and others that are based on recent scientific findings that need to be embraced by the whole world in order to transform them into effective and widely shared innovations.

To my knowledge, four major solutions are available to quickly and effectively reduce CH₄ emissions from agricultural sources and thus hope to achieve a temperature increase limited to 1.5-2.0 °C compared to the pre- industrial sector as defined in the Paris Agreement.

The first solution is a sincere and genuine reconsideration, supported by solid scientific bases, of the methods for estimating CH₄ emissions from the farm taken as a whole and no longer as emissions per kg of animal product. The very strong heating power of CH₄ as well as its very short half-life compared to CO₂ should, once this reconsideration has been carried out, make agricultural CH₄ a very powerful tool to hope to limit global warming to 1.5-2.0 °C ([details available here](#)).

The other three solutions are technical and require investments that could be funded by programs under the jurisdiction of nations or groups of nations for

aid to breeders or groups of breeders and by major international programs for further scientific research and related innovations.

The second solution would be to very quickly transform the livestock facilities dedicated to the treatment of slurry into veritable CH₄ production plants. The sources of these factories are first and foremost slurry from the farm itself, but also plant waste collected nearby in private gardens or community green spaces. The CH₄ produced in this way would be used for heating residential or industrial premises, thus causing 72 times less global heating than if the CH₄ was emitted directly into the atmosphere.

The third solution, based on the most recent research results and which I have already had the opportunity to speak about in a previous editorial, would be to initiate a very large international program aimed at genetically selecting cattle for reduced CH₄ emissions. To proceed quickly and effectively, all bovine populations should be included and this selection criterion should be the first considered and should be heavily weighted in selection schemes. Several scientific papers have shown that a large reduction is possible in just 10 years in the dairy herd and that this selection is generally associated with an improvement in the feed efficiency of the animals. Several large cattle countries have already started the process, but for it to be effective, all those who raise cattle would need to get involved quickly. As with the previous solution, aid should be put in place for such collective action, along with strict regulations making it compulsory. As with other traits, such genetic selection is long and difficult, but it is acquired for subsequent generations and accumulates generation after generation, making efforts visible and permanent ([de Haas et al. 2021](#)).

The fourth solution is to implement in the feed ration of ruminants, whether in intensive or extensive system, a specific supplementation dedicated to reducing the emission of CH₄ from ruminal fermentation. Many publications exist supporting the success of this strategy and allowing an almost total reduction of CH₄ emissions from ruminal fermentation ([Kinley et al. 2020](#)).

In all of these solutions, science and innovation have a key role to play in developing animals that produce

very little CH₄ and thus permanently control the almost billion animal sources present on the planet, for our common good.

Philippe Chemineau
WAAP President
[@ChemineauPh](https://www.waap.it)
[https://www.waap.it/](https://www.waap.it)

From WAAP Members

Australian Association of Animal Sciences (AAAS)

Australian Association of Animal Sciences 34th Biennial Conference



Australian Association of
ANIMAL SCIENCES
34TH BIENNIAL CONFERENCE
Anchoring knowledge – exploring the animal science ecosystem

On behalf of the Australian Association of Animal Sciences, we invite you on 5th-7th July 2022 to Cairns and the 34th AAAS Conference “Anchoring Knowledge, Exploring the Animal Science Ecosystems”.

For science to have an impact – for knowledge to be anchored – it needs to be ratified, shared, applied, and reviewed. The 2022 AAAS conference program is being thoughtfully prepared entice innovation and blue-sky thinking, and to pull our knowledge and expertise together to make our science impactful to all animal industries. We are not only at the cutting edge of animal science, but we are also in a unique position to help shape the future direction of agricultural and ecological services.

Join us in Cairns for thought-provoking keynote speakers, tropically-enhanced networking, and field tours that showcase two UNESCO World Heritage Sites – the Wet Tropics Rainforest and the Great Barrier Reef.

Cairns is where the rangelands meet the rainforest, and the rainforest meets the sea – a truly spectacular location for a conference theme that aims to explore all parts of the animal science ecosystem. We challenge you to consider the ecosystems around us and how animals – be it production, native, sport or companion, play a role in both the natural environment and the man-made world.

You are invited to submit a one page paper for consideration as part of the AAAS2022 conference program. **Submissions are due on 17th January 2022.**

See you in Cairns for AAAS2022.

Dr **Luis Prada e Silva**
Conference Chair

American Dairy Science Association® (ADSA®)

ADSA News



ADSA has started a series of webinars.

Recent webinars held were:

I. **ADVANCES IN ENTERIC METHANE MITIGATION IN DAIRY CATTLE - THE LAST DECADE AND FUTURE PROSPECTS** SEPTEMBER 21st, 2021

Presentations were held about “Rethinking methane: Animal agriculture's path to climate neutrality”, Modeling the enteric methane mitigation effect

of feed additives”, “Understanding the role of the rumen microbiota and metagenome in enteric methane mitigation” and “Is it possible to selectively breed low enteric methane-producing dairy cows”. The importance of reducing methane as one of the GHG to most effectively combat climate change was emphasized. This will directly relate to the dairy herd.

2. LACTATION BIOLOGY: MAMMARY GLAND IMMUNITY AND HEALTH; OCTOBER 5th, 2021

The goal of this webinar was to understand mammary immunity and how management, nutrition, genomics and environment affect it and will enhance health, production and welfare of the dairy cow.

3. FORAGES AND PASTURES SYMPOSIUM: OCTOBER 19th

The objective of this symposium was to present the responses of forage quality in a controlled setting, to determine the predictability of how controlled research corresponds with field responses, and to investigate how to connect the two areas.

Info about webinars can be found in this [link](#). Registration is required. For past webinars it was free for participants of last ADSA virtual meeting. For participants the recorded presentations are available.

ADSA-EAAP Symposium

An ADSA-EAAP symposium was held at Davos Switzerland in early September 2021 about the future of dairy cattle housing. During 1 1/2-day experts from USA and Europe explained and discussed about innovative forms of housing in the context of the so called [FreeWalk project](#) .

New executive director

The [American Dairy Science Association](#) has chosen Jerry Bowman as its new executive director. Bowman,

who previously served as executive director of the [Flavor and Extract Manufacturers Association](#), started working at ADSA on September 13th, 2021.



Discovery conferences to come:



The 42nd Discover Conference- Managing Genetic Diversity for Future Dairy and Livestock Breeding

This conference will be a Hybrid Conference held April 19th-21st, 2022 at Northern Illinois University Naperville Conference Center, hosted by the [American Dairy Science Association®](#). Potential Conference Topics include:

- Current and future potential genetic diversity status and issues;
- Genetic diversity assessments of major and minor livestock breeds;
- Retrospective assessments inbred livestock & poultry populations;
- New methods for assessing and using genetic diversity;
- Potential use of cloning and gene editing – chickens as a model;
- Artificial insemination company round table; Breeders and Breed Association round table – current and future drivers for genetic utilization and profitability.

Detailed information about this conference is available [here](#).

The 43rd Discover Conference- Dairy Cattle Reproduction: Lessons Learned and Future Frontiers

This conference will be held May 31st -June 3rd, 2022 at the Eaglewood Resort & Spa in Itasca, IL Hosted by the American Dairy Science Association®. Conference Topics include:

- Translating basic biology into novel reproductive management strategies;
- Promoting reproductive success through Improved health and nutrition;
- Data assisted reproductive management and automation;
- New frontiers in genetics and ARTs (Assisted Reproductive Technologies);
- The future of reproduction in dairy farming in a changing world;

To improve the reproduction of a dairy herd is indeed a big wish from farmers and from animal welfare sides.

Registration and information about this conference are available [here](#).

American Dairy Science® annual meeting

Next ADSA annual meeting will be held in Kansas City June 19th -22nd, 2022. Symposia to be held are presently discussed. One symposium proposed is an ADSA-EAAP symposium about climate care dairy farming. Detailed information and registration are available [here](#).

American Society of Animal Science (ASAS)

Upcoming American Society of Animal Science Meetings:

The ASAS Southern Section Annual Meeting will be held in Fort Worth, Texas, January 22nd-25th, 2022.

The ASAS Midwest Section Annual Meeting will be held in Omaha, Nebraska, March 14th -16th, 2022.

Abstract submission deadline is **November 8th, 2021**.

The ASAS-CSAS Annual Meeting will be held in Oklahoma City, Oklahoma, June 26th -30th, 2022. Abstract submission deadline is **March 22nd, 2022**.

The 2022 Aspen Perinatal Biology Symposium will be held in Aspen, Colorado, August 28th -30th, 2022

ASAS Publications

Journal of Animal Science (JAS) is the premier journal for animal science and serves as the leading source of new knowledge and perspective in this area. JAS publishes more than 500 fully reviewed research articles, invited reviews, technical notes, and letters to the editor each year.

Translational Animal Science (TAS) is the first open access-open review animal science journal, encompassing a broad scope of research topics in animal science. TAS focuses on translating basic science to innovation, and validation of these innovations by various segments of the allied animal industry.

Animal Frontiers is published in 6 issues by the American Society of Animal Science (ASAS), Canadian Society of Animal Science (CSAS), the European Federation of Animal Science (EAAP), the American Meat Science Association (AMSA), the World Association for Animal Production (WAAP) and a rotating guest society. This magazine synthesizes information, through applied reviews, from across disciplines within the animal sciences. Animal Frontiers is provided as a benefit to the members of these societies.

Canadian Society Animal Science (CSAS)

News from the Canadian Society of Animal Science



The Canadian Society of Animal Science Executive would like to welcome Dr Ronaldo Cerri as CSAS new President the new Executive members!

Dr Cerri is an Associate Professor of Animal Reproduction and Director of the University of British Columbia's Dairy Education and Research Centre. His current research focuses on dairy and beef cattle reproduction, including early embryonic and foetal development, use of sensor and automated monitoring system on various aspects of reproduction. Dr Cerri will continue to work to further foster collaboration with sister organizations, including the American Society of Animal Science, the American Dairy Science Association, the Canadian Meat Science Association, the European Federation of Animal Science, the British Society of Animal Science, and the World Association for Animal Production, to keep our members and our society at the forefront of innovation and knowledge in animal science. We wish Ronaldo all the best in his new term as our President and look forward to working together with him and the rest of the Executive in the year to come! Stay safe and healthy,

Canadian Society of Animal Science Executive.

News CSAS Executive Members!

The Canadian Society of Animal Science Executive would like to welcome our new Executive members!

Vice President



Dr Younes Miar, Assistant Professor, Dalhousie University

Eastern Director



Dr Angela Canovas, Associate Professor, University of Guelph

Western Director



Dr Nuria Prieto, Research Scientist, Agriculture and Agri-Food Canada

Director at Large (Industry Representative)



Dr Francesca Malchiodi, Research Geneticist, Semex Alliance

Eastern Student Representative



Heather Hiscock, MSc Student, *University of Guelph*

Western Student Representative



Rachel Carey, PhD Student, *University of Saskatchewan*

European Federation of Animal Science (EAAP)

2021 Annual Meeting Survey

For all participant to the Davos Annual Meeting, EAAP invites you to complete the annual survey. To participate please click on this [link](#). The purpose of this survey is to explore the possible challenges that EAAP faces in the organization of the annual meeting. We had been really challenged in the last years: a traditional on-site meeting in 2019 (Ghent, Belgium), a virtual meeting in 2020 and a hybrid meeting in 2021 (Davos, Switzerland). The last three surveys had been slightly different, due to the different structures of the annual meetings. Therefore, it will not always be possible to compare among the three annual meetings. Otherwise, the analysis of the results will also help us to select the best structure for the future annual meetings. Please note that your participation is voluntary, but we would appreciate if you could help us to improve the services that we offer. The survey is anonymous and response data will only be analyzed at aggregate level. If you have any questions or concerns about

this study, please feel free to contact us at eaap@eaap.org. Kindly note the closing date of the survey is Monday, **1st November 2021**. It will not take too long to complete the questionnaire.

Thanks for your help!

EAAP presents animal – science proceedings, the international journal for conference proceedings

animal – science proceedings (formerly *Advances in Animal Biosciences*) is part of the animal family of journals. The animal family is managed by a consortium of EAAP, BSAS and INRAE and published as an open access journal by Elsevier. The journal publishes high-quality conference, symposium and workshop proceedings on aspects of the life sciences with emphasis on farmed, other managed animals, leisure and companion animals, aquaculture and the use of insects for animal feed and human food. These can be in the form of short abstracts, one to two-page summaries or short papers. The conferences can be international or regional/ national. There is an option to publish in a preferred language. Further information can be found [here](#).

Publishing conferences in *animal – science proceedings* offers many positive aspects. If you or your colleagues are interested in publishing your conference in *animal – science proceedings*, please contact ansproceedings@bsas.org.uk for further information and a quote for costs.

11th ATF seminar, 18th November - 9:00-13:00 CET

The Animal Task Force (ATF) seminar "Going beyond the Feed vs Food competition: crops and animals together to address food and nutrition security" will be held on Thursday 18th November - 9:00-13:00 CET in Brussels, Belgium and remotely. It is a follow up of the one-day symposium of the ATF & Livestock Farming Systems Study Commission, EAAP Annual Meeting in Davos on August 30th,

2021. The Program and detailed information are available on the [ATF website](#).

Latin American Association of Animal Production (ALPA)

ALPA News

1. Last July the new [Latin American Association of Animal Production \(ALPA\)](#) bylaws were approved, which allows adaptation to modern times, greater agility in activities and decision-making. Read the bylaws [here](#).

2. Thematic networks are the academic arm of ALPA. It allows researchers in a specific area to be kept in contact, develop ideas, exchange documents, and organize conferences, seminars. Ten thematic networks have been developed.

3. The Editorial Board of the Latin American Archives of Animal Production has been renewed. A broader body, with greater representation of countries, and assumed the challenge of placing Archives in the first places.

4. The [Chilean Animal Production Association \(SOCHIPA\)](#) will hold its congress virtually from November 10th to 12th, 2021.

5. During the days 17th to 19th November the Argentine Congress of Animal Production of the [Argentine Association \(AAPA\)](#) will be held virtually.

6. The [Latin American Food Insects Congress \(CLIA 2021\)](#) will be held online during December 1st -3rd, sponsored by the Brazilian Association of Insect Breeders (ASBRACIA) and under the auspices of ALPA, AAPA, APICAL, IRSFD, Bioconversion Academy and others.

7. The 7th congress of the Uruguayan Association of Animal Production (AUPA) to celebrate the 25th anniversary will be held on December 14th-15th virtually.

8. With the support of the Library Services of the [University of Puerto Rico](#), the first volumes of the Latin American Archives of Animal Production journal have been digitized and are available on the [ALPA website](#).

South African Society for Animal Science (SASAS)

News from SASAS

The [South African Society for Animal Science](#) held its 52nd Congress from 10th to 12th August 2021, in a virtual format, organized by the Societies' Northern Branch. There were 330 attendees. The theme was Animal Science Communication: Is it reliable; Is it relevant; Is it responsible? The programme addressed matters of local and international interest in three plenary sessions and nine focused sessions. The program is accessible on the [Society website](#).

Seven keynote papers were presented that covered a wide range. Among these were Dr Theo de Jager of South Africa, President of the World Farmers Organization on *Communicating animal science: A global perspective*, and Diana Rodgers, Executive Director: Global Food Justice Alliance on *Why well-raised meat is good for you and the planet*.

The focused sessions on communication, ruminant nutrition, monogastric nutrition, breeding genetics, physiology, sustainability and animal welfare, meat science, production systems and applied animal science were followed by an interactive Q & A session via a chat room.

This first SASAS virtual Congress went smoothly for the which the retiring President, Prof. Norman Maiwashe thanked the organising committee and the technical support services. Dr Trevor Dugmore became the incumbent president. The KwaZulu-Natal branch of SASAS will host the next Congress in 2022.

News from Science

The impact of sow lameness on piglets



Could sow lameness have an impact on piglet survival? That question was asked in a recent study. Swine health and welfare expert Dr Monique Pairis-Garcia highlights the potential longer-term effects of providing good sow welfare.

[Read the full article on Pig Progress.](#)

Virtual Event: “Net Zero Carbon: How We Can Meet UK Livestock Targets”.

On the 3rd of December the [British Society of Animal Science \(BSAS\)](#) and the [Centre for Innovation Excellence in Livestock \(CIEL\)](#), will be joining forces to bring you a day of the lively and informative virtual event “Net Zero Carbon: How We Can Meet UK Livestock Targets” that will be aired at 10:00 – 15:00. For the programme and detailed information, please consult the programme on the [Flyer of the event](#) or visit [BSAS website](#).

News from Industry

Global dairy demand sufficiently strong and adaptable

With global dairy supply expected to continue its growth trajectory, solid ongoing demand will be

of paramount importance, according to the latest Situation and Outlook Report of Dairy Australia.

[Read the full article on Dairy Global.](#)



Brazil forecasts new poultry production records



Ricardo Santin, ABPA's president.

Photo: Fabian Brockotter

The Brazilian poultry sector forecasts another year of record results in 2021. Despite many challenges in the internal economy and abroad, production outlooks look bright for poultry, eggs and pig meat. [Read the full article on Poultry World.](#)

Job Offers

Research and Science Director at AHDB, Stoneleigh, UK

The [Agriculture and Horticulture Development Board \(AHDB\)](#) is recruiting for a Research & Science Director to join the team on a full-time permanent basis. Application deadline: **31st October 2021**. For more details and application read the [job vacancy](#).

Postdoctoral Fellow at University of Alberta, Canada

A The [University of Alberta](#) is looking for a Postdoctoral Fellow - Molecular Immunity and Animal Health to work with a collaborative group of researchers with backgrounds in immunology, veterinary sciences, and engineering. For detailed information and application read the [job vacancy](#).

Postdoctoral Position at ETH Zurich, Zürich, Switzerland

A Postdoctoral position in Epidemiology of Antimicrobial Use in Pigs is available at [ETH Zurich](#). This position is part of the [project AVANT](#) funded by the [European Commission](#) to explore alternative to veterinary antimicrobials in pig production. For detailed information read the [job vacancy](#).

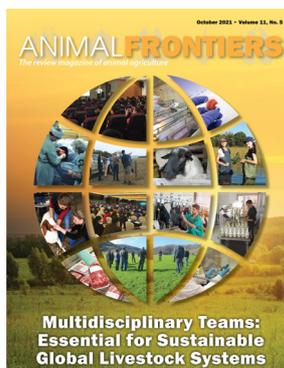
Publications

I.Elsevier

[Animal:Volume 15- Issue 10 – October 2021](#)
Article of the month:“[Animal board invited review: Animal agriculture and alternative meats – learning from past science communication failures](#)”.

2.Oxford Academic

[Animal Frontiers:Volume 11, Issue 5, October 2021](#)



3.ILRI-CGIAR – CABI

“[The Impact of Research at The International Livestock Research Institute](#)”, [ILRI- CGIAR](#), authors: McIntire, J. and Grace, D. (eds). 2020. This book will be launched on November 3rd, 2021, at 3.00 pm EAT.

4.New technical articles have been recently published on Engormix:

I.“[Risk Assessment and Mitigation of the Mycotoxin Content in Medicinal Plants by the Infusion Process](#)”

II.“[Vaccine strain differentiation: an essential factor in monitoring and controlling salmonellosis in poultry](#)”

III. “[Eco-friendly approaches to aquaculture wastewater treatment: Assessment of natural coagulants vis-a-vis chitosan](#)”

IV.“[The impact of animal products on human health: A 2020 vision of the evidence](#)”

Meetings and Conferences

WAAP 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.

November 27th – 28th 2021, Turkey

3rd international and 12th National Animal Science Online Conference

The 3rd international and 12th National Animal Science Conference, organized by [Uludağ Animal Science Association](#) with [Bursa Uludag University Faculty of Agriculture Department of Animal Science](#) and the [Animal Science Federation](#) will

take place virtually on 27th – 28th November 2021. In the Congress, all stages from producing to consuming animal products will be discussed. For more information and registration [visit the website](#).

April 12th – 14th 2022, Nottingham/Online, United Kingdom

BSAS Annual Conference 2022

The BSAS Annual Conference 2022 will take place in Nottingham (and virtually) from 12th to 14th April 2022. The theme will be: “Role of the Animals in Human and Planetary Health”, the debate will be about the role that animals play on the wider stage of dietary, environmental and mental health. Submission deadline for abstracts: **31st October 2021**. For more information [visit the website](#).

June 19th – 22nd 2022, Kansas City, USA

2022 ADSA Annual Meeting

The Next ADSA Annual meeting will be held in Kansas City June 19th -22nd, 2022. For more information visit the [2022 ADSA Annual Meeting website](#).

June 21st – 24th 2022, Brussels/Online, Belgium

ONE- Health, Environment, Society – Conference 2022

The ONE – Health, Environment, Society – Conference 2022 will take place in Brussels (and via live web streaming) from 21 to 24 June 2022. For more information about the conference visit [the website](#).

July 3rd – 8th 2022, Rotterdam, The Netherlands

12th World Congress on Genetics Applied to Livestock Production (WCGALP)

The 12th World Congress on Genetics Applied to Livestock Production will be held in Rotterdam (The Netherlands) from 3rd - 8th July 2022! Registration and call for abstract are open and the deadline for submission of abstracts is January 12th, 2022. Our website contains more & more information, so please keep an eye on that. Because of the privacy laws, we would like to ask you to actively sign up for the mailing list, so we can keep you up to date. Please [visit the website](#). Follow us on: [LinkedIn](#) and [Twitter](#)

July 5th – 7th 2022, Cairns, Australia

34th AAAS Conference “Anchoring Knowledge, Exploring the Animal Science Ecosystems”

The 34th AAAS Conference “Anchoring Knowledge, Exploring the Animal Science Ecosystems”, organized by the [Australian Association of Animal Sciences \(AAAS\)](#) will take place in Cairns, Australia, from 5th to 7th July 2022. Paper submission deadline: **17th January 2022**. Information about the event is available on [the website](#).

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



The **World Animal Science News** is the Official WAAP Newsletter. This interesting update about activities of the global animal science community presents information on leading research institutions in the entire world and also informs on developments in the industry sector related to animal science and production. The Newsletter is sent to all WAAP member organizations and to their associates. You are all invited to submit information for the newsletter. Please send information, news, text, photos and logo to waap@waap.it.

WAAP Secretariat is located at the following address: Via G. Tomassetti 3, A/I - Rome (Italy). Tel.: +39-06-44 20 26 39;
E-mail: waap@waap.it

Production staff: Marlène Sciarretta, Philippe Chemineau, Andrea Rosati, Eleonora Azzaro, Federica Motterle.

Graphics design and layout: Gianfilippo Ercolani.