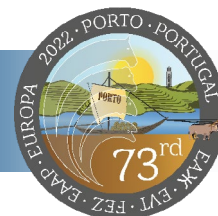


73RD ANNUAL MEETING OF THE EUROPEAN FEDERATION OF ANIMAL SCIENCE

THE COEXISTENCE OF WILDLIFE AND LIVESTOCK

PORTO – PORTUGAL

4 SEPTEMBER – 9 SEPTEMBER 2022



EAAP 2022

PROGRAMME EAAP 2022



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The European Federation of Animal Science (EAAP)

Every year, the EAAP (The European Federation of Animal Science) organizes an international meeting which attracts between 900 and 1500 people.



The main aims of the EAAP are to promote, by means of active co-operation between its members and other relevant international and national organizations, the advancement of scientific research, sustainable development and production systems; experimentation, application and extension; to improve the technical and economic conditions of the livestock sector; to promote the welfare of farm animals and the conservation of the rural environment; to control and optimise the use of natural resources in general and animal genetic resources in particular; to encourage the involvement of young scientists and technicians. More information on the organization and its activities can be found at www.eaap.org.

Address: Via G. Tomassetti 3 A/1

I-00161 Rome, Italy

Phone: +39 06 4420 2639

E-mail: eaap@eaap.org

Web: <http://www.eaap.org>

Former Presidents

1949-1961	A.M. Leroy (France)
1961-1967	R. Trehane (United Kingdom)
1967-1972	J.M. Rijssenbeek (The Netherlands)
1972-1978	J.H. Weniger (Germany)
1978-1984	E.P. Cunningham (Ireland)
1984-1990	A. Roos (Sweden)
1990-1996	A. Nardone (Italy)
1996-2000	P. Solms-Lich (Germany)
2000-2004	A. Aumaitre (France)
2004-2008	J. Flanagan (Ireland)
2008-2012	K. Sejrsen (Denmark)
2012-2016	P. Chemineau (France)
2016-2020	M. Gauly (Germany)

Council members

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- Isabel Casasús (Spain)

Vice-Presidents

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Members

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- Zdravko Barac (Croatia)
- Gerry Greally (Ireland)

Alternate Auditor

- Jeanne Bormann (Luxembourg)

Secretary General

- Andrea Rosati



European Federation of Animal Science has close established links with the sister organizations American Dairy Science Association, American Society of Animal Science, Canadian Society of Animal Science and Asociación Latinoamericana de Producción Animal.

Welcome to the EAAP 2022 in Porto



On behalf of the Portuguese Organizing Committee, we are honored and delighted to welcome you at the 73rd EAAP Annual Meeting being held at the wonderful world heritage city of Porto, in Portugal. The last EAAP meeting held in Portugal was in 1987. 35 years and one pandemic later, Portugal has the privilege to finally again host the annual meeting of EAAP.

The years we are living show us that our sector never stops, that animal production continues to put food in people's houses, and that we are an essential part of society. This year, recent war events at our door have put the society under high economic and societal changes. To add up we are faced with the undergoing climate urgency and still adapting to the post pandemic crisis. This conjuncture increases the challenges of Animal Science making them even more relevant than ever, with a consequent higher engagement and responsibility from the scientific community.

The program will cover various areas of knowledge, such as nutrition, genetics, physiology, animal health and welfare, livestock farming systems, precision livestock farming, insect production and use, cattle, horse, pig, sheep and goat production. These topics will be filled with innovation and recent scientific results leading animal production in the right path.

The European Federation of Animal Science (EAAP) Annual Meeting gives an opportunity for the application of new ideas in practice through many parallel sessions, poster presentations, and discussions about scientific achievements in livestock production all around the world. The Plenary Session, under the topic "The coexistence of wildlife and livestock" is a must of 2022 Porto Meeting.

Moreover, as we know, this Meeting is a privileged discussion forum where the research community meets with the industry, to discuss and plan for and how to address the multiple challenges that the animal science sector has to cope with in the upcoming years. All these activities make the EAAP Annual Meeting one of the largest animal science congresses in the world.

Of course our unforgettable social program throughout the week promotes all this scientific activities and networking even more. Starting with the welcome ceremony the programme follows with a typical Portuguese night, a gala dinner and finishes with remarkable technical tours. In parallel an exquisite accompanying persons program is available.

We hope that the 73rd Annual Meeting of EAAP: EAAP 2022, is a unique opportunity to add work with pleasure. We wish you a very pleasant stay in our beautiful city and country!

Ana Sofia Santos and Olga Moreira

Chairs of the Portuguese Organizing Committee

EAAP – Programme of the 73rd annual meeting, Porto 2022

National Organizers of the

Portuguese Steering Committee

Presidents

- Ana Sofia Santos (APEZ-FeedInov CoLab)
- Olga Moreira (INIAV)

Executive Secretaries

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- Mariana Almeida (APEZ-UTAD)
- Pedro Santos Vaz (APEZ)
- Telma G. Pinto (APEZ)

Members

- Amélia Ramos (APEZ-ESAC)
- Ana Geraldo (APEZ)
- André Almeida (APEZ-ISA-ULisboa)
- Ângela Martins (APEZ-UTAD)
- Divanildo Monteiro (APEZ-UTAD)
- Jorge Oliveira (APEZ-ESA-IPV)
- Rui Charneca (APEZ-UÉvora)
- Vasco Cadavez (IPB)

Portuguese Scientific Committee

Presidents

Ana Sofia Santos (FeedInov CoLab)
Olga Moreira (INIAV)

Executive members

José Pedro Araújo (ESA-IPVC)
Divanildo Monteiro (UTAD-APEZ)
Jorge Oliveira (ESA-IPV-APEZ)
Luís Ferreira (UTAD-APEZ)

Animal Genetics

Jorge Oliveira (ESA-IPV)
Júlio Carvalheira (CIBIO-UPorto)
Luís Telo da Gama (FMV-ULisboa)
Nuno Carolino (INIAV)

Animal Health and Welfare

Joaquim Cerqueira (ESA-IPVC)
Maria Antónia Conceição (ESA-IPC)

Animal Nutrition

André Almeida (ISA-ULisboa)
Olga Moreira (INIAV)
Rui Bessa (FMV-ULisboa)

Animal Physiology

Graça Ferreira Dias (FMV-ULisboa)
Rita Payan (UÉvora)
Rosa Lino Neto (INIAV)

Livestock Farming Systems

Alfredo Teixeira (ESA-IPB)
Luís Ferreira (UTAD)
Rui Caldeira (FMV-ULisboa)

Cattle Production

Alfredo Borba (UAçores)
Ana Geraldo (UÉvora)
António Moitinho Rogrigues (ESA-IPCB)

Horse Production

António Rocha (ICBAS-UP)
António Vicente (ESA-IPS)
Maria Fradinho (FMV-ULisboa)

Pig Production

João Bengala-Freira (ISA-ULisboa)
Divanildo Monteiro (UTAD)
Rui Charneca (UÉvora)

Sheep and Goat Production

Ana Teresa Belo (INIAV)
Jorge Azevedo (UTAD)
Rosário Marques (INIAV)
Vasco Cadavez (IPB)

Insect Production

Daniel Murta (Ingredient Odyssey)
Miguel Rodrigues (UTAD)

Precision Livestock Farming

Luís Alcino (ESAE-IPP)
Pedro Carvalho (INESC TEC)
Severiano Silva (UTAD)

Mediterranean Working Group

José Santos Silva (INIAV)
Nuno Brito (ESA – IPVC)

Aquaculture Working Group

Luisa Valente (ICBAS-UP)
Paulo Rema (UTAD)

Conference website: www.eaap2022.org

73rd EAAP Annual Meeting

APEZ and INIAV

The EAAP congress organization Represents the interests of all Animal Production technicians that develop their professional activity in animal production and animal science.

The Portuguese Association of Animal Science (APEZ) is a national technical, scientific and professional organization that represents the interests and needs of the animal science practitioners in Portugal and provides knowledge transfer activities in the animal science area.

APEZ was created in 1996 by a group of Zootechnical Engineers who wanted to affirm the profession of Zootechnical Engineer, namely through technical-scientific achievements. Since then, APEZ has developed a very active action plan to promote and defend Animal science, animal production and farming and the professional activity of zootechnic engineers.

APEZ promotes regular technical and scientific meetings in very broad aspects of animal production, providing continuous updated knowledge transfer activities, as well as continuous education and updates in the safeguard of animal science and animal production.

The National Institute for Agrarian and Veterinarian Research I. P. (INIAV) is the State Laboratory of the Ministry of Agriculture that develops research activities in the agricultural and veterinary fields and provides official services to farmers and industry, public and private entities.

INIAV promotes research, experimentation and demonstration, according to the public policies, in order to ensure the technical and scientific support needed for the development, innovation and competitiveness in the areas of forestry, crop's protection, food technology, food safety and animal health and production.

The preservation and management of the plant and animal germplasm's databases are also INIAV's responsibilities. INIAV has a network of 15 centers located throughout Portugal, in close proximity to the various sectors of animal and agriculture production.



Friends of EAAP

By creating the 'Friends of EAAP', EAAP offers the opportunity to industries to receive services from EAAP in change of a fixed sponsoring amount of support every year.

- The group of supporting industries are layered in three categories: 'silver', 'gold' and 'diamond' level.
- It is offered an important discount (one year free of charge) if the sponsoring industry will agree for a four years period.
- EAAP will offer the service to create a scientific network (with Research Institutes and Scientists) around Europe.
- Creation of a permanent Board of Industries within EAAP with the objective to inform, influence the scientific and organizational actions of EAAP, like proposing choices of the scientific sessions and invited speakers and to propose industry representatives for the Study Commissions.
- Organization of targeted workshops, proposed by industries.
- EAAP can represent and facilitate activities of the supporting industries toward international legislative and regulatory organizations.
- EAAP can facilitate the supporting industries to enter in consortia dealing with internationally supported research projects.

Furthermore EAAP offers, depending to the level of support (details on our website: www.eaap.org):

- Free entrances to the EAAP annual meeting and Gala dinner invitation.
- Free registration to journal *animal*.
- Inclusion of industry advertisement in the EAAP Newsletter, in the banner of the EAAP website, in the Book of Abstract and in the Programme Booklet of the EAAP annual meeting.
- Inclusion of industry leaflets in the annual meeting package.
- Presence of industry advertisements on the slides between presentations at selected standard sessions.
- Presence of industry logos and advertisements on the slides between presentations at the Plenary Sessions.
- Public Recognition by the EAAP President at the Plenary Opening Session of the annual meeting.
- Discounted stands at the EAAP annual meeting.
- Invitation to meetings (at every annual meeting) to discuss joint strategy EAAP/Industries with the EAAP President, Vice-President for Scientific affair, Secretary General and other selected members of the Council and of the Scientific Committee.

Contact and further information

If the industry you represent is interested to become 'Friend of EAAP' or want to have further information please contact jean-marc.perez0000@orange.fr or EAAP secretariat (eaap@eaap.org, phone : +39 06 44202639).

The Organization

EAAP (The European Federation of Animal Science) organizes every year an international meeting which attracts between 900 and 1,500 people. The main aims of EAAP are to promote, by means of active co-operation between its members and other relevant international and national organizations, the advancement of scientific research, sustainable development and systems of production; experimentation, application and extension; to improve the technical and economic conditions of the livestock sector; to promote the welfare of farm animals and the conservation of the rural environment; to control and optimise the use of natural resources in general and animal genetic resources in particular; to encourage the involvement of young scientists and technicians. More information on the organization and its activities can be found at www.eaap.org

YoungEAAP



What is the YoungEAAP?

YoungEAAP is a group of young scientists organized under the EAAP umbrella. It aims to create a platform where scientists during their early career get the opportunity to meet and share their experiences, expectations and aspirations. This is done through activities at the Annual EAAP Meetings and social media. The large constituency and diversity of the EAAP member countries, commissions and delegates create a very important platform to stay up-to-date, close the gap between our training and the future employer expectations, while fine-tuning our skills and providing young scientists applied and industry-relevant research ideas.

Committee Members at a glance

- Torun Wallgren (President)
- Ines Adriaens (Vice President)
- Marcin Pszczola (Secretary)

YoungEAAP promotes Young and Early Career Scientists to:

- Stay up-to-date (i.e. EAAP activities, social media);
- Close the gap between our training and the future employer expectations;
- Fine-tune our skills through EAAP meetings, expand the special young scientists' sessions, and/or start online webinars/trainings with industry and academic leaders;
- Meet to network and share our graduate school or early employment experiences;
- Develop research ideas, projects and proposals.

Who can be a Member of YoungEAAP?

All individual members of EAAP can join the YoungEAAP if they meet one of the following criteria:
Researchers under 35 years of age OR within 10 years after PhD-graduation

Just request your membership form (torun.wallgren@slu.se) and become member of this network!!!

Country information: Portugal

Facts about Portugal	
Population	10.263.953
Mainland Portugal	88,889 km ²
Atlantic coast line	832 km
National Languages	Portuguese, Mirandês, Portuguese gestual language
Welcome to Portugal!	

Portugal, world's leading destination

With its mild climate, 3,000 hours of sunshine per year and 850 kms of splendid beaches bathed by the Atlantic Ocean, Portugal is the perfect holiday destination all year round.

This is a country that has the oldest borders in Europe, with an exceptional range of different landscapes just a short distance away, lots of leisure activities and a unique cultural heritage, where tradition and modernity blend together in perfect harmony. Its superb cuisine, fine wines and hospitable people make this a tourist paradise of the highest quality.

Situated in the extreme south-west of Europe, just a few hours from any of the other European capitals, also includes the Madeira and Azores archipelagos in the Atlantic Ocean. Mainland Portugal occupies an area of 88,889 km². It is 218 km wide and 561 km long. It has 832 km of Atlantic coast and a 1,215 km border with Spain.

Portugal has seven regions, which in itself indicates that there is a lot to visit and get to know, it is the perfect choice on the list of trips you should do in your lifetime.

The country's history and culture, gastronomy and wines, are among the main attractions, not to mention the beaches, surfing, music festivals, golf, the varied landscapes and, above all, the Portuguese people, who are seen as affable, open and sincere.

The recent award from the World Travel Awards, which considered Portugal the World's Best Destination has just confirmed the current trend, also acknowledged by many guides, travel writers, bloggers and the media from around the world specializing in travel and tourism.

Language

From a Latin root, Portuguese is spoken by about 250 million people in every continent, and is the 5th most spoken language in the world and the 3rd, if we only consider the European languages.

In Portugal most people are able to communicate in English, French and Spanish.

Agriculture in Portugal

Agriculture is a part of the Portuguese essence. Most traditions and large parts of the culture are based on agriculture and primary sector processes. Agriculture, agro-food and beverages are traditionally the backbone of the Portuguese economy.

The sector has in recent years reinvented itself and developed new production techniques as well as new products. This sector is today one of the most innovative in the Portuguese economy and has been internationally awarded multiple times for its forward-thinking and modern adaptation to global markets.

Agriculture in Portugal is based on small to medium-sized family-owned dispersed units.

Small scale animal production in Portugal is widely related to the local breeds. Concerning this issue, Portugal has a total of 22 registered local animal breeds, most of them ancient breeds and a genetic heritage of great importance.

Portugal's key crops are fruit and vegetables, predominantly because of its ideal climate for those crops. The Portuguese production covers the domestic consumption and suffices also for exporting large quantities. The numbers of exports in this sector are consistently growing and reached, in 2016, a volume of 6.3 thousand million euros, representing 11.3 % of the Portuguese economy.

In 2016, farmers housed on average 1.7 million cattle, 2.7 million pigs, 2.3 million sheep and goats and 0.8 million equines.

Total meat production was 902 thousand tonnes in 2020. In relation to 2019, beef meat (98 thousand ton) rose 6.2%, while pig (380 thousand ton), sheep (14.6 thousand ton) and goat meat (1.1 thousand ton) showed reductions of 2.1%, 12.7% and 7.9%, respectively, showing the biggest decrease in consumption for small ruminars since 1986. The CoVid-19 pandemic was the main factor for these results. Poultry meat showed an increase of 1.1% with a total of 393 thousands tonnes, whereas other meats (rabbit, quail, game,...) was 15.2 thousands tonnes.

Total chicken egg production reached 146 thousand ton, of which 126 thousand ton were eggs for consumption.

Total milk production level showed a slight increase (0.9%) in relation to 2019, with sheep and goat milks decreasing by 0.8% and 1.1%, respectively, and cow's milk (1,935 million liters), increased 1.1%.

The city of Porto is located in the heart of the Portuguese continental dairy basin. Within a 20 minutes drive from the centre of Porto city we can find several dairy, and pork farms, as well as related industries (Lactogal, the biggest Portuguese dairy factory is located in Vila do Conde, 25 km from Porto).



About Porto

It was in the Porto and in the North regions that Portugal was founded in the 12th century and the Portuguese became a people and a nation.

Porto is not only the second largest city in Portugal but also a city of great historical past and listed as UNESCO's World Heritage, since 1996. The narrow and labyrinthine streets of the old city center will take you back in time while the cool and vintage neighborhoods will make you discover the new trends and the unique atmosphere of this historical yet modern city.

Porto is the gateway and departure point for a journey across the natural and cultural diversity of the North region. It is known for the Port wine which is shipped from here all over the world, but also for a heritage which combines ancient churches and monuments, and modern buildings.

On a brief visit to Porto, there are some places that cannot be missed. In the words of many visitors, this city has something mystical that is difficult to describe and which varies according to the place, time of day and light

Whatever it is, it certainly has to do with its people, known to be generous and easy-going, as well as the River Douro and its heritage on both banks, with its bridges and monuments, the tiles, the flowering balconies and the shopping streets. The historic center of Porto and the River Douro on the Gaia side, where the Port Wine lodges are located, are classified as World Heritage.



Did you know that...

The supreme Tourism Oscars, aka World Travel Awards 2020 state that Portugal is the Best European Destination for the 4th consecutive year and Porto is the World's Leading City Break Destination 2020.

The most famous of Portuguese wine, Port Wine, is traditionally produced in the Douro Valley and stored and aged in the cellars in Vila Nova de Gaia, just across the river from Porto.

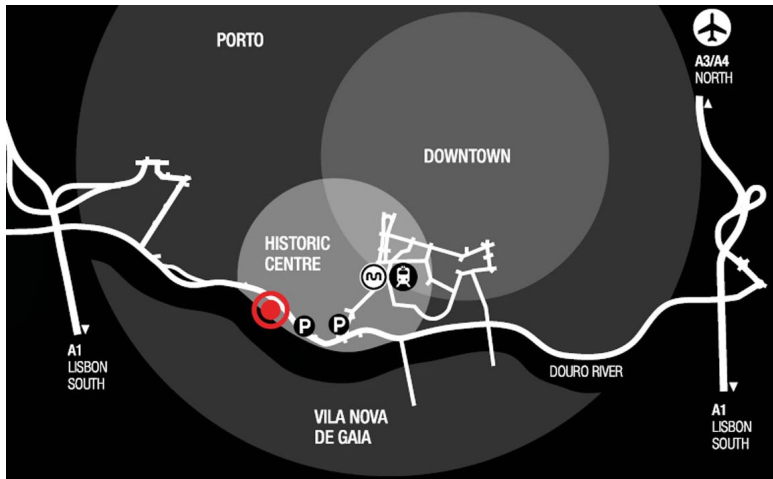
In the old days, cattle was responsible for transporting the Porto wine to and from the Rebelo Boats that would transport Porto wine from the Douro region to Porto.

Lello & Irmão Bookstore is considered as the third most beautiful library in the world. Rumor has it that J.K. Rowling's inspiration to write *Harry Potter* began in Porto, particularly at this library.

Porto's Casa da Música, opened in 2005 and was considered as 'one of the most important show rooms built in the last 100 years' by the New York Times.



Conference venue



**Centro de Congressos da
Alfândega do Porto**
Rua nova da Alfândega
Edifício da Alfândega
4050-430 Porto

☎ (+351) 223 403 000/24
✉ geral@ccalfandegaporto.com

Alfândega Congress Centre

The EAAP2022 conference will take place in the International Congress Center of Alfândega do Porto, located in the historic city centre of Porto, by the Douro River, in a historic building, recovered by Arch. Souto Moura.

Best Meetings & Conference Centre Europe. Business Destinations Travel Award 2014, 2015 & 2017.

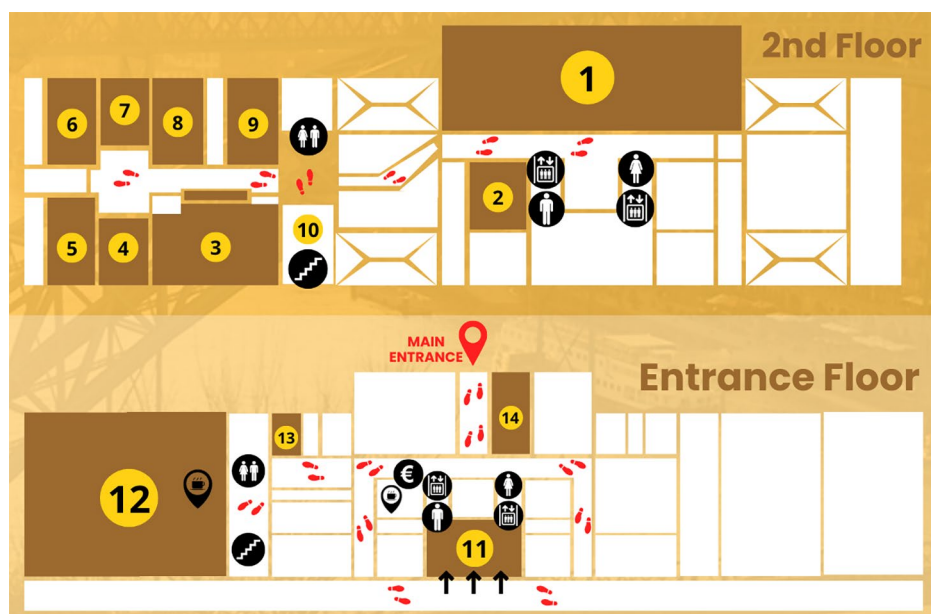
The Alfândega Congress Centre – Porto offers a wide range of services, capable of responding to the highest standards.

Ensuring the most modern equipments and the most effective and competitive solutions.

The Congress Centre provides all kind of services, with the goal of making our event unforgettable while ensuring a CoVid-19 safe congress environment if needed, keeping the possibility of interaction among the participants.



Floorplans



- 1 Arquivo
- 2 Ribeira
- 3 Infante
- 4 Miragaia
- 5 Arrábida
- 6 Porto
- 7 S. João
- 8 D. Luís
- 9 D. Maria
- 10 Slide Desk

- 11 Secretariat/Registration Desk
- 12 Exhibition and Coffee

Conference rooms

- 13 Piquette
- 14 Auditório

Useful information

Official language

The official language of the EAAP annual meeting is English. No translation will be provided.

Passport and visa

Entry formalities in Portugal vary according to the country of origin. European Union (EU) citizens and the European Economic Area (EEA) as well as third-country nationals holding a residence permit of a Schengen State, do not need a Visa to enter Portugal. All non-EU citizens are asked to contact their local embassies for any specific requirements. All foreign citizens entering Portugal must have either a valid passport or a national valid ID card.

A list of countries that require a visa to Portugal is given at <https://vistos.mne.gov.pt/en/>

Official invitation and certification

An official letter will be sent upon request to assist in meeting administrative requirements. However, this invitation implies no obligation, financial or otherwise, by the EAAP organizing committee. A certificate of attendance will be available for all the registered participants.

Liability and insurance

The organizing committee cannot accept liability for personal accidents or loss of/ or damage to private property of participants and accompanying persons. Participants are advised to acquire their own personal travel and health insurance for their trip.

Health and emergency

In case of emergency, land line or mobile phones users should call 112, the European emergency number to be sent for the relevant department.

Currency and money exchange

Currency in Portugal is the Euro (€). Most banks are open at 09:00 and close by 15:00 hrs, Monday through Friday. (Banks at the airports are open 08:00-20:00 hrs).

Post offices are open from 8:00 to 18:00 hrs. Both are generally open during lunch hour.

Please notice that there will be no exchange facilities at the congress venue.

Portugal also has an extensive network of cash dispensers which operate 24 hours a day. ATM's are widely distributed throughout the Conference venue and trough out the city. Most credit cards allow you to withdraw money from ATM's. You can exchange money from at least seven exchange bureaus from Monday to Saturday.

Local time zone

The summer time in Portugal is GMT + 1 Hour (Western Europe Daylight). The local time in Portugal is the Greenwich the same as in London.

Climate

Portuguese climate is mild. The city of Porto, being in the coast can have a maritime influence. At this time of the year, it is usually sunny and hot. Summer temperatures in Porto will vary from 15 °C - 26 °C on average. You are advised to bring some warm clothing for the nights can be chilly due to the coast influence.

For more information please visit www.ipma.pt.

Electricity

Portugal uses a 220 V system, sockets have the European standard and plugs are two-prong.

Public transport

Public transport throughout the city is well organized. Busses, metro (subway) and trams will take you to every possible destination and around Porto from early in the morning until late at night. Busses and trams stop at the entrance of the conference venue.

Conference app

An EAAP 2022 App will be available from www.eaap2022.org to all registered delegates before the conference.

The conference App will contain comprehensive information about the conference, venue, program and abstracts, as well as interactive possibilities.

Travelling to and in Porto

By air

Arrival point: Francisco Sá Carneiro/ Porto Airport (phone +351 229 432 400), 11 km north of the city centre.

Porto and the North of Portugal, with its International Airport – Aeroporto Sá Carneiro – is centrally located between America and Europe. Flights can be found from throughout the world to Porto airport. Most low cost companies fly to Porto.

Transport from/to the airport: metro or taxi

The surface Subway (Metro) line is a quick connection between the airport, the city centre and the main hotels in Porto, with services every 20 minutes. Don't lose a minute. Get in the Violet (E) Line. Line E (Violet) connects Airport Station to Estádio do Dragão Station, and, naturally, to all metro's network. Line E (Violet) comes to add 1.6 km extension to Metro do Porto system, that now counts a total of 60 km and 68 stations. The service defined for Line E (Violet), Airport – Estádio do Dragão, assure a direct (without any overflow) and very fast link (trip times around 25 minutes) to the Porto city centre. The occasional Andante title required for travelling between the Airport Station and Porto city centre is a Z4. In the Andante shop located in the arrivals zone of the Airport you can also buy the Andante Tour, an unlimited and intermodal title valid for 1 or 3 days.

- Cost Title Zone 4: 2€
- First Connection: 05:57
- Last Connection: 00:42

For more information please visit www.metroporto.pt

A taxi to the centre costs approximately 25€. Taxis can charge an additional 20% from 22:00 to 06:00 and other additional surcharge may also be applied for extra luggage, although wheelchairs and other equipment required by physically handicapped people are transported free of charge. The price is the same, regardless of the number of people sharing a taxi (maximum 4 per taxi).



By train/rail

CP, Comboios de Portugal, the Portuguese railway company, offers a vast rail network covering the whole of mainland Portugal and also offers international connections daily to Paris via Madrid and several trains daily to Lisbon. For more information please visit www.cp.pt.

- Journey time: 3 hours from Lisbon & 12-14 hours from Madrid
- Departure point from Lisbon: Santa Apolónia/ Gare do Oriente
- Arrival point: Porto railway station Campanhã
- Cost: From Lisbon 44.60€ (1st class) and 31.90€ (2nd class) – Alfa Pendular.

By car

Portugal has a good road network composed of Motorways (AE), Main Trunk Routes (IP), Complementary Trunk Routes (IC), Main (National) Roads (EN) and Secondary (Municipal) Roads. There are car rental services at airports, international rail terminuses and in the main towns and cities. You can use the highway 'A28' between Vigo (Spain) and Porto or the highway 'A1' between Lisbon and Porto. Both are good and new highways, and the 'A1' has a toll fee (about 25€)

By bus

You can get to Portugal by bus. Eurolines and Intercentro both operate international routes to and from Portugal.

There are regular bus services between Portugal's main towns and cities. For details of routes, timetables and fares visit www.rede-expressos.pt the website of Rede Nacional de Expressos.

To get around in Porto there are regular bus lines between Porto's most important sites. For detailed information, timetables and fares visit www.stcp.pt

Car rental and parking

It costs approximately 90€ per day to rent a car.

To rent a car you can contact Skyros-Congressos

- Phone: +351 22 616 54 50.

Street parking usually costs about 1€ per hour in the city centre.

Taxis

The phone number of the taxi call centre in Porto is +351 22 5073900. Taxi ranks can be found at various locations in the city centre. Almost all the conference hotels have a taxi rank located at a distance of no more than 150 m. A taxi from the airport to the city centre costs approximately 25€.

Sightseeing

For sightseeing tours you can contact Skyros-Congressos: Phone: +351 22 616 54 50.

Shopping

The most traditional shopping area in the city center of Porto is Rua Santa Catarina, along with the narrow streets going up and down from the city center till Ribeira, by the Douro river side.

Several shopping centers, in Porto and around it, are open everyday till 23:00.

Information for participants

Registration desk

The Registration Desk is open for participants the following days and times:

Sunday, September 4 th	14:30 – 18:30
Monday, September 5 th	07:30 – 18:00
Tuesday, September 6 th	08:00 – 18:00
Wednesday, September 7 th	08:00 – 18:00
Thursday, September 8 th	08:00 – 18:00

Submission of PowerPoint Presentations

- 16:9 aspect ratio must be used.
- Supported formats are PowerPoint (*.ppt) or PDF (*.pdf) (Apple keynote is not supported.)
- There are no restrictions regarding the size of the presentation file.
- If you are including videos in your presentation, please note that PowerPoint does not automatically embed video formats into the template. We recommend checking your presentation on another computer before the conference to ensure the videos work as intended.

Please save your slides to a USB stick. Please name your presentation as (EAAP22_sessionnumber_nameoffirstauthor). Once you have arrived in Porto, there will be an uploading desk at the congress centre to transfer your presentation. Uploading the presentations in the preview room (adjacent to the session rooms) is mandatory at the latest one day before the presentation. Technicians are available to upload the presentation from your USB stick to the presentation system in the Preview room during the opening hours of the registration desk on Sunday and during normal reception hours on Monday to Thursday. It is strongly recommended that all presentations scheduled for Monday morning are uploaded on Sunday.

Posters and poster sessions

Posters are online only and can be accessed via www.eaap2022.org. All posters will be on display throughout the conference and participants can communicate with authors. Poster discussion can be done online through the platform or onsite in the appointed session of the poster.

Uploading presentations on the EAAP website

The Book of Abstracts containing all abstracts presented at the conference will be available on the EAAP 2022 website (www.eaap2022.org).

PDF files of contributions will also be available following the conference for downloading from the EAAP website (www.eaap.org). This site will enable delegates to obtain more detailed information about work being presented at the meeting. A password, given only to registered participants, will be required.

To authors

If authors do not wish to give permission to have the pdf presentation or poster available on the EAAP website, they must inform EAAP before September 30th (after the conference) by sending an email to eleonora@eaap.org. After this date, EAAP will assume permission and include your presentation/poster on the EAAP website.

Posters

Only the poster (pdf) or the MP4 video uploaded in the virtual poster area will be placed on the website.

Theatre

Only the presentation uploaded in the Preview Room will be placed on the website.

Please do not send us any other presentation or poster by email.

EAAP will only accept presentations/posters that have been presented.

A password will be required, and this will only be communicated to registered participants and EAAP Individual Members.

Conference App

An EAAP 2022 App will be available from www.eaap2022.org to all registered delegates before the conference. It will contain comprehensive information about the conference, venue program and abstracts.

General programme

Day	Time	Subject
Sunday, September 4 th	08:00 – 18:30	Workshop 'Writing and presenting scientific papers'
	12:00 – 19:00	Registration of participants
Monday, September 5 th	08:30 – 12:30	Study commission sessions
	12:30 – 14:00	Lunch
	14:00 – 18:00	Study commission sessions
	19:30 – 22:00	Welcome ceremony
Tuesday, September 6 th	08:30 – 12:30	Plenary session
	12:30 – 14:00	Lunch
	14:00 – 18:00	Study commission sessions
	19:30 – 00:00	Social evening: Portuguese night
Wednesday, September 7 th	08:30 – 12:30	Study commission sessions
	12:30 – 14:00	Lunch
	14:00 – 18:00	Study commission sessions
	18:00 – 19:30	General assembly
Thursday, September 8 th	08:30 – 12:30	Study commission sessions
	12:30 – 14:00	Lunch
	14:00 – 18:00	Study commission sessions
	18:00 – 23:00	Farewell dinner
Friday, September 9 th	08:30 – 18:00	Technical tours

Plenary Session (22)

September 6th 9:00 – 12:30

Discovery Plenary Session (9:00 – 12:00)

The coexistence of wildlife and livestock

Chair: Isabel Casasús

- | | |
|---------------|--|
| 9:00 – 9:30 | Current situation of wildlife in Europe
<i>Francesca Cagnacci (Italy)</i> |
| 9:30 – 10:00 | Sanitary issues
<i>Christian Gortazar (Spain)</i> |
| 10:00 – 10:30 | Technologies used to handle the coexistence
<i>Klemen Jerina (Slovenia)</i> |

10:30 – 11:00 Coffee Break

- | | |
|---------------|---|
| 11:00 – 11:30 | Different social acceptance of keeping wildlife and of farming animals
<i>Ketil Skorgen (Norway)</i> |
| 11:30 – 12:00 | General Discussion |

Leroy Award Presentation (12:00 – 12:30)

- | | |
|---------------|--|
| 12:00 – 12:30 | Animal source foods and the nature-culture divide
<i>Frédéric Leroy (Belgium)</i> |
|---------------|--|

Organization of scientific programme

In the 'Room Overview' section (pages 22-25) several abbreviations are shown which are to do with the organization of the various sessions. These are explained below.

EAAP Commissions

The Scientific Programme of the EAAP Annual Meeting is organized by the Scientific Committee of EAAP, chaired by the Vice-President for Scientific Affairs, Dr Johannes Sölkner. The Scientific Committee comprises the Presidents of the 11 Commissions (see pages 100-101) and is assisted by a Secretary, Dr Geoff Pollott.

The 11 Commissions are: Cattle (C), Genetics (G), Health and Welfare (H+W), Horse (H), Livestock Farming Systems (LFS), Nutrition (N), Physiology (Ph), Pig (P), Sheep and Goat (S+G), Insects (I) and Precision Livestock Farming (PLF).

Type of sessions

- **Theme sessions (T)** are on key topics in animal science suggested by a Commission at its Annual Commission Meeting and consist of invited and offered papers
- **Industry sessions (I)** are led and supported by industry organizations involved with a Commission and comprise invited and offered papers
- **Free Communications (bottom-up; BU)** are sessions created from submitted abstracts and titles are announced in early April after abstracts have been received
- **Discovery sessions (D)** are invited and submitted single/multiple presentations on hot/emerging topics suggested by a Commission
- **Challenge sessions (C)** are free format (workshop, open committee, round table) to debate important issues and have no theatre paper presentations, other than an introductory talk
- **Young EAAP sessions (YE)** are to identify topics particularly oriented towards early-career scientists
- **Project sessions (P)** are sessions based around a project which wants to share its results with the wider scientific community, often combined with submitted abstracts.
- **Working Group sessions (WG)** are the results of an EAAP working group

All sessions are open to all delegates to the Annual Meeting.

Room overview

Room	Monday 5 th September a.m. 8.30-12.30	Monday 5 th September p.m. 14.00-18-00
Arquivo	Session 1 Coordination of local and transboundary breed conservation; the role of <i>in-situ</i> and <i>ex-situ</i> strategies (G; WG; FAGRWG)	Session 12 Social license to operate (H; C)
Infante	Session 2 Livestock emissions and the COP26 targets (LFS; ATF)	Session 13 Livestock emissions and the COP26 targets (LFS; ATF)
Auditório	Session 3 Novelties in genomics research and their impact on genetic selection (G; T)	Session 14 Novelties in genomics research and their impact on genetic selection (G; T)
D. Maria	Session 4 Multifunctional grasslands systems for efficient cattle production promoting ecosystems services (C; T; with EGF)	Session 15 Young Train session: Dairy research and extension (C; YE)
D. Luís	Session 5 Dairy herd reproduction management strategies for improved efficiency (C; T)	Session 16 Integrated approach for sheep and goats Mediterranean farming systems (S+G; WG)
Arrábida	Session 6 Nutrition regulation of rumen and/or gut microbiota (N; T)	Session 17 Role of nutrition in animal well-being (N; I)
Porto	Session 7 Insects as food, feed, and technical applications (I; T)	Session 18 Insect production and processing (I; T)
Miragaia	Session 8 Animal health and welfare free communications (H+W; B)	Session 19 Pig health and welfare (H+W P; B)
S. João	Session 9 Nutrition and fertility of cattle (Ph; ASAS and Texas A+M Uni.)	Session 20 Influence of nutrition on reproductive performance (Ph; ASAS and Texas A+M Uni.)
Piquete	Session 10 Early career competition 'Innovative approaches to pig and poultry production', supported by Wageningen Academic Publishers (P; YE)	Session 21 Early career competition 'Innovative approaches to pig and poultry production', supported by Wageningen Academic Publishers (P; YE)
Ribeira	Session 11 Limits to productive performance and welfare in livestock: Physiological evidence and sensing strategies (Ph; T)	
Coffee break: 10:15 – 10:45 and 15:45 – 16:15 / Lunch break: 12:30 – 14:00 Welcome reception: 19:30 – 22:00		

Room	Tuesday 6 th September. a.m.	Tuesday 6 th Sept. p.m. 14.00-18-00
Arquivo	Session 22 Plenary session	Session 23 Young EAAP (Young EAAP; YE)
Infante		Session 24 Balancing metrics of impacts and services to assess sustainability (LFS; T)
Auditório		Session 25 ClearFarm: A platform to control animal welfare in pig and cattle farming (PLF; P)
D. Maria		Session 26 Climate care dairy farming (C; T; ADSA) >>>
D. Luís		Session 27 Breeding for health, welfare and longevity (G H+W; B)
Arrábida		Session 28 SmartCow: Methods and technologies for research and smart nutrition management in dairy and beef cattle (N; P)
Porto		Session 29 Genetics, physiology, and behaviour of insects (I; T)
Miragaia		Session 30 Improving animal welfare to increase animal health, performance and reduce the use of medication (H+W/C; T)
S. João		Session 31 Development of novel sheep and goat products for human consumption (S+G; T)
Piquete		Session 32 Role of pork in circular food/protein production: from crop to pork (P; T)
Ribeira		Session 33 Breeding for performance (H; T)
Coffee break: 10:15 – 10:45 and 15:45 – 16:15 / Lunch break: 12:30 – 14:00 Portuguese night: 20:00 - 23:00		

Room	Wednesday 7 th September a.m. 8.30-12.30	Wednesday 7 th September. pm. 14.00-18.00
Arquivo	Session 34 Animal farming 4.0: the role of Big Data in animal breeding (G; P; FABRE-TP)	Session 45 Breeding for environmentally important traits (e.g. methane emission, feed efficiency etc.) (G; T)
Infante	Session 35 Reimagining pasture based production systems (LFS; T)	Session 46 The role of local (plant and animal) resources in the resilience of livestock farming systems (LFS; D)
Auditório	Session 36 Sensing animals and fields to improve pasture and rangeland management (PLF; T)	Session 47 Phenotyping vs monitoring: better exploitation of measurement data for breeding and management (PLF; T)
<<< D. Maria	Session 37 Climate care dairy farming (C; T; ADSA)	Session 48 Climate care dairy farming (C; T; ADSA)
D. Luís	Session 38 High quality and sustainable milk and meat products from cattle (C; T)	Session 49 High quality and sustainable milk and meat products from cattle (C; T)
Arrábida	Session 39 New/alternative/ innovative/revised feeds in farm animals and farmed fish (N; T)	Session 50 Nutrition and environment (N; T)
Porto	Session 40 INSECTDOCTORS/INSECTFEED (I; P)	Session 51 Workshop on multi-stakeholder views on using insects as feed (I; C)
Miragaia	Session 41 Development and external validation of PLF tools for animal behaviour, health and welfare (H+W PLF; T)	Session 52 Development and external validation of PLF tools for animal behaviour, health and welfare (H+W PLF; T)
S. João	Session 42 Metabolic inflammation and insulin resistance in livestock (Ph; T)	Session 53 Heat stress and other adaptations to implications of climate change (Ph; T)
Piquete	Session 43 Challenges in poultry nutrition, health and welfare (P; WG)	Session 54 Challenges in poultry nutrition, health and welfare (P; WG)
Ribeira	Session 44 Sheep and Goat production systems in mountain areas – where are we and where are we going? (S+G; WG)	Session 55 Innovation in equine production (H; T)
Coffee break: 10:15 – 10:45 and 15:45 – 16:15 / Lunch break: 12:30 – 14:00 General assembly: 18:00 – 19:30		

Room	Thursday 8 th September a.m. 8.30-12.30	Thursday 8 th September p.m. 14.00-18.00
Arquivo	Session 56 Sustainable Animal breeding (G; B) Genetics Commission Meeting	Session 65 Genetics and product quality in local breeds (P; T)
Infante	Session 57 Livestock farming and value chain initiatives contributing to societal/ecological transition (LFS Young Club; T) LFS Commission meeting	
Auditório	Session 62 Early career competition on measuring animal behaviour (H+W; YE) Health and Welfare Commission meeting	Session 66 Digitalisation, Data integration, Detection and Decision support in PLF applications – collaboration with D4Dairy (Ph; P)
D. Maria	Session 59 Flexitarianism, plant-based products, cultured meat: pros and cons of these new solutions (C; T) Cattle Commission Meeting	Session 67 Dairy management to enhance farm sustainability (C; T)
D. Luís	Session 60 LIFE Green Sheep project / Meta-analysis applied to animal science (S+G; P/T) Sheep and Goat Commission meeting	Session 68 The multiple facets of adaptive capacities in sheep and goat farms: how physiological, genetics and management strategies can be used and combined to improve resilience? (S+G; P; Adaptaherd)
Arrábida	Nutrition Commission meeting	Session 69 Increasing animal resilience via nutrition (N; D)
Porto	Session 61 Safety and sustainability in the insect chain (I; T) Insect Commission Meeting	Session 70 Genome informed breeding (G; B)
Miragaia	Session 58 PLF for social, environmental and ethical impact (PLF; C) PLF Commission meeting	
S. João	Session 63 Role of antioxidants in the physiology of several tissues in livestock (Ph; T) Physiology Commission meeting	Session 71 Integrative physiology to understand whole-tissue or whole-body functions and their application to animal production, health or disease (Ph; T)
Piquete	Session 64 Feeding sows from weaning to farrowing (P; T) Pig Commission meeting	Session 72 Sustainable pig production (P; WG)
Ribeira	Horse Commission meeting	Session 73 Equine nutrition (H N; T)
Coffee break: 10:15 – 10:45 and 15:45 – 16:15 / Lunch break: 12:30 – 14:00 Farewell Dinner: 20:00 - 23:00		

Scientific programme

Monday 5 September

Session 01. Coordination of local and transboundary breed conservation; the role of *in situ* and *ex situ* strategies

Room: Arquivo

Chair: Bojkovski / Lino Neto Pereira

Session type: Working group session

Theatre Session 01	Book of Abstracts page
8:30 Strategic transboundary collaboration to conserve Dutch and Belgian draught horse populations <i>M.A. Schoon, L. Chapard, A.C. Bouwman, B.J. Ducro, S. Janssens, S.J. Hiemstra and N. Buys</i>	111
8:45 Developing, validating and improving low density multi-species SNP arrays in farm animals <i>R.P.M.A. Crooijmans, R. Gonzalez-Prendes and M. Tixier-Boichard</i>	111
9:00 Genomic diversity and relatedness between endangered German Black Pied cattle and 68 cattle breeds <i>G.B. Neumann, P. Korkuć, D. Arends, M.J. Wolf, K. May, S. König and G.A. Brockmann</i>	112
9:15 Population structure and genetic diversity of sheep breeds in Slovenia <i>M. Simčič, N. Pogorevc, D. Bojkovski and I. Medugorac</i>	112
9:30 Analysis of genomic inbreeding, diversity and population structure of the Angler Saddleback pig <i>A. Meder, A. Olschewsky and D. Hinrichs</i>	113
9:45 First insights into mitogenome variability of indigenous Croatian sheep breeds <i>V. Brajkovic, F. Diab, N. Valjak, V. Cubric-Curik, D. Novosel, F. Oštarić and I. Curik</i>	113
10:00 Comparative analyses of inbreeding on the X-chromosome in Croatian sheep breeds <i>M. Shihabi, V. Cubric-Curik, I. Drzaic, L. Vostry and I. Curik</i>	114
10:15 Coffee break	
10:45 Regional approach to strengthen the documentation of <i>ex situ</i> in vitro collections in Europe <i>Z.I. Duche, F. Tejerina, A. Stella and S.J. Hiemstra</i>	114
11:15 Dutch genebank for breeding programme support and long term conservation of genetic diversity <i>M. Van der Sluis, M.A. Schoon, J.J. Windig, S.J. Hiemstra and M. Neuteboom</i>	115
11:30 Gene bank material as the support for <i>in situ</i> conservation <i>D. Bojkovski and T. Flisar</i>	115
11:45 Impact of CAP payments on the increase in the number of local livestock populations <i>G.M. Polak</i>	116
12:00 Trends in inbreeding and challenges in Norwegian cattle breeds <i>P. Berg, A. Holene and N. Svartedal</i>	116
12:15 Conservation of animal genetic resources in Poland and Ukraine <i>E. Sosin and N. Reznikova</i>	117

Poster Session 01	Book of Abstracts page
01.14 Genetic variations of mtDNA in Lipican horses <i>N. Moravčíková, R. Kasarda, J. Candrák, H. Vostrá-Vydrová and L. Vostrý</i>	117
01.15 Analysis of whole-genome sequence data on Colombian Creole pig breeds <i>R. Suárez Mesa, R. Ros-Freixedes, R.N. Pena, B. Hernández, I. Rondón-Barragán and J. Estany</i>	118
01.16 Genetic variability in a captive Mhorr gazelle (Nanger dama mhor) population via pedigree analysis <i>S. Domínguez, I. Cervantes, J.P. Gutiérrez and E. Moreno</i>	118
01.17 Social aspects of the protection of genetic resources of primitive and warmblooded horse bree <i>I. Tomczyk-Wrona and A. Chelmińska</i>	119
01.18 Morphometric variability in the Apulian native Murgesse horse <i>G.B. Bramante, E.P. Pieragostini and E.C. Ciani</i>	119
01.19 Joint <i>in situ</i> and <i>ex situ</i> efforts for the active conservation of the Gentile di Puglia sheep breed <i>L. Temerario, V. Landi, D. Monaco, C. Carrino, G. Bramante, F. D'Innocenzio, S. Grande, G. Donnini, F.M. Sarti, M. Ragni, R. Sardaro, G.M. Lacalandra, M. Albenzio, P. De Palo, F. Pilla, M.E. Dell'aquila and E. Ciani</i>	120
01.20 CAMEL-SHIELD project: a further step toward understanding the <i>Camelus dromedarius</i> genetic diversity <i>E. Ciani</i>	120
01.21 Population structure of Lithuanian riding horses <i>A. Račkauskaitė, R. Šveistienė and Š. Marašinskienė</i>	121
01.22 Inbreeding level of X-chromosome in Old Kladrub Horse <i>L. Vostry, M. Shihabi, H. Vostra-Vydrova, B. Hofmanova and I. Curik</i>	121

Session 02.

Livestock emissions and the COP26 targets

Room: Infante

Chair: O'Mara / Lee

Session type: Challenge session

Theatre Session 02	Book of Abstracts page
8:30 Livestock emissions and the COP26 targets: welcome and introduction <i>invited F. O'Mara and M. Lee</i>	122
8:45 IPCC AR6 Working Group III report: overview of agricultural sector GHG emissions <i>invited H. Clark</i>	122
9:15 Technical advisory group on methane emissions from the livestock systems & Working group on metrics <i>invited J. Lynch and C. De Camillis</i>	123
9:45 EU policy tools to decrease emissions from the livestock sector <i>invited V. Forlin and A. Pilzecker</i>	123
10:15 Coffee break	
10:45 Global research alliance on agricultural green house gases – GRA-GHG <i>invited H. Montgomery</i>	124
11:00 Production profiles and GHG emissions – pilot study on farm practices towards circular bioeconomy <i>M. Záhradník, O. Pastierik, J. Huba, D. Peškovičová and I. Pavlík</i>	124
11:15 Territorial-scale trade-offs of livestock performance: cattle diet composition perspective <i>R. Wang, F. Accatino, C. Pinsard, L. Puillet and P. Lescoat</i>	125

11:30	State of the art in research and innovation – nutrition and supplements	125
invited	<i>J.R. Newbold and C.J. Newbold</i>	
12:00	Research and innovation for climate change mitigation from an animal breeding perspective	126
invited	<i>O. González-Recio</i>	
12:15	State of the art in research and innovation – manure management	126
invited	<i>H. Trindade and D. Fangueiro</i>	
12:30	Panel discussion (morning session)	127
invited	<i>A.S. Santos, A. Granados and T. Boland</i>	

Poster Session 02

Book of Abstracts page

02.12	Reducing carbon footprint in the Azorean meat industry	127
	<i>A.M. Pereira, J.L. Ramos-Suárez, C. Vouzela, J. Madruga and A.E.S. Borba</i>	
02.13	Optimising the integration of crop and dairy production systems in the Netherlands	128
	<i>L.M. Alderkamp, A. Van Der Linden, C.E. Van Middelaar, C.W. Klotwijk, A. Poyda and F. Taube</i>	
02.14	Carbon farming as an element of two meat quality production systems in Poland	128
	<i>J. Walczak, W. Krawczyk and M. Skowrońska</i>	
02.15	The use of ammonia mitigation methods in animal production for the official Polish emission inventor	129
	<i>J. Walczak, W. Krawczyk and M. Skowrońska</i>	

Session 03. Novelties in genomics research and their impact on genetic selection

Room: Auditório

Chair: Baes / Miglior

Session type: Theme session

Theatre Session 03

Book of Abstracts page

8:30	Large scale genome-wide association studies for seven production traits in Italian heavy pigs	129
	<i>S. Bovo, G. Schiavo, A. Ribani, M. Cappelloni, M. Gallo and L. Fontanesi</i>	
8:45	Identification of gene expression regulators from pig muscle transcriptome	130
	<i>M. Passols, C. Sebastià, L. Criado-Mesas, J. Estellé, D. Crespo-Piazuelo, A. Castelló, J. Valdés-Hernández, Y. Ramayo-Caldas, R. González-Prendes, A. Sánchez and J.M. Folch</i>	
9:00	Improved imputation of low coverage sequence data by utilization of pre-phased reads and HBimpute	130
	<i>T. Pook and J. Geibel</i>	
9:15	Genetic components of serotonergic system and its association with tail biting behaviour in pigs	131
	<i>G.S. Plastow, I. Reimert, W. Ursinus, L.E. Van Der Zande, E.F. Knol and E. Dervishi</i>	
9:30	Mining the K-mer patterns in whole-genome sequences of Holstein-Friesian cows	131
	<i>J. Szyda and M. Mielczarek</i>	
9:45	The GENE-SWitCH H2020 project: follows up and perspectives of functional genome annotations	132
	<i>E. Giuffra, H. Acloque, A.L. Archibald, M.C.A.M. Bink, M.P.L. Calus, P.W. Harrison, C. Kaya, W. Lackal, F. Martin, A. Rosati, M. Watson and J.M. Wells</i>	

10:15 Coffee break

10:45	A genome-wide association study for diarrhoea sensitivity in newborn rabbits	132
	<i>A. Ribani, S. Bovo, G. Schiavo, D. Fornasini, A. Frabetti and L. Fontanesi</i>	
11:00	Assessing workflows to call structural variants in chickens from Illumina, PacBio and Nanopore data	133
	<i>J. Geibel, J. Schauer, A. Weigend, C. Reimer, D.-J. De Koning, H. Simianer and S. Weigend</i>	

11:15	Exploring the link between gut microbiota, faecal SCFAs, pig muscle and backfat fatty acid profile <i>C. Sebastià, D. Crespo-Piazuelo, M. Ballester, J. Estellé, M. Passols, M. Muñoz, J.M. García-Casco, A.I. Fernández, A. Castelló, A. Sánchez and J.M. Folch</i>	133
11:30	Whole genome resequencing provides information for sustainable conservation of Reggiana cattle breed <i>G. Schiavo, S. Bovo, A. Ribani, M. Bonacini, S. Dall'olio and L. Fontanesi</i>	134
11:45	Perceptions of genome editing in farm animals by livestock stakeholders <i>E. Delanoue, R. Duclos, L. Journaux, D. Guéméné, M. Sourdioux, A.-C. Dockès, J.-P. Bidanel and R. Baumont</i>	134

Poster Session 03		Book of Abstracts page
03.12	Gene organization of the TRG locus in <i>Equus caballus</i> as deduced from the genomic assembly <i>A. Caputi Jambrenghi, G. Linguiti, F. Giannico, R. Antonacci and S. Massari</i>	135
03.13	Genomic predictions including unknown parent groups for milk traits in Portuguese Holstein cattle <i>A.A. Silva, D.A. Silva, P.S. Lopes, H.T. Silva, R. Veroneze, G. Thompson, J. Carnevalheira and C.N. Costa</i>	135
03.14	Comparison of <i>longissimus lumborum</i> muscle transcriptomes in Romanov and Polish Merino sheep <i>E. Grochowska, Z. Cai and M. Grgula-Kania</i>	136
03.15	SNP substitution effects for SCS changes across environmental gradients in Portuguese dairy cattle <i>A.A. Silva, D.A. Silva, P.S. Lopes, H.T. Silva, R. Veroneze, G. Thompson, C.N. Costa and J. Carnevalheira</i>	136
03.16	Genomic patterns of homozygosity around casein gene cluster in Italian Holstein cattle <i>B. Lukic, J.B.C.H.M. Van Kaam, R. Finocchiaro, I. Curik, V. Cubric-Curik and M. Cassandro</i>	137
03.17	Genetic parameters and GWAS analysis for lactation persistency in Brazilian Murrah buffaloes <i>A.A. Silva, D.A. Silva, K.R. Silveira and H. Tonhati</i>	137

Session 04. Multifunctional grasslands systems for efficient cattle production promoting ecosystems services

Room: D. Maria

Chair: Berard / Probo

Session type: Theme session

Theatre Session 04		Book of Abstracts page
8:30	Multifunctionality assessments of grazing systems: opportunity or curse? <i>L. Merbold, V. Klaus, A. Edlinger and O. Huguenin-Elie</i>	138
9:00	Using crowdsourced data to assess the cultural ecosystem services provided by grasslands <i>A. Chai-Allah, S. Bimonte, G. Brunschwig and F. Joly</i>	138
9:15	Response of Maremmana cattle to virtual fencing for herd management during spring-summer grazing <i>A. Confessore, C. Aquilani, M.C. Fabbri, L. Nannucci, A. Mantino, F. Vichi, E. Gasparoni, G. Argenti, C. Dibari, M. Mele and C. Pugliese</i>	139
9:30	Links between the sum of temperatures and forage yield and quality in intensive permanent grasslands <i>P. Mariotte, E. Perotti, O. Huguenin-Elie, P. Calanca, D. Frund and M. Probo</i>	139
9:45	Does stocking method affect enteric methane emissions and performance of dairy × beef steers? <i>P. Meo-Filho, S. Morgan, P. Nightingale, A. Cooke, M. Lee, A. Berndt and M. Jordana Rivero</i>	140
10:00	Silage or hay: does feeding regime affect health related traits of primiparous dairy cows? <i>B. Fuerst-Waltl, S. Ivemeyer, M. Coppa, C. Fuerst, M. Klopčič, U. Knierim, B. Martin, M. Musati and C. Winckler</i>	140
10:15	Coffee break	

10:45	The role of pasture use intensity for ecosystem services in alpine pastures <i>C.M. Pauler, H. Homburger, A. Lüscher, M. Scherer-Lorenzen and M.K. Schneider</i>	141
11:15	Generic relationships between field uses and geographical characteristics in mountain-area farms <i>G. Brunschwig and C. Sibra</i>	141
11:30	Optimizing age at slaughter and eco-efficiency for four cattle breeds in Alentejo, Portugal <i>M.P. Dos Santos, T.G. Morais, T. Domingos and R.F.M. Teixeira</i>	142
11:45	Effects of field peas on feed intake, milk production and metabolism in grazing dairy cows <i>R.G. Pulido, I.E. Beltran, J.A. Aleixo, A. Morales, M. Gutierrez and P. Melendez</i>	142
12:00	Genome-wide CNV discovery in the autochthonous Aosta Breeds <i>M.G. Strillacci, F. Berenini, C. Punturiero, R. Milanese, M. Vevey, V. Blanchet and A. Bagnato</i>	143

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Session 05. Dairy herd reproduction management strategies for improved efficiency

Room: D. Luís

Chair: Chagunda / Montanholi

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Chair: Goselink / Abdenneby-Najar

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Session 07.

Insects as food, feed, and technical applications

Room: Porto

Chair: Gasco / Ottoboni

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Animal health and welfare free communications

Room: Miragaia

Chair: Ammer / Gardon-Salmon

Session type: Free communications / Bottom-up session

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Session 09.

Nutrition and fertility of cattle

Room: S. João

Chair: Lamb / Kreuzer Redmer

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Session 10. Early career competition 'Innovative approaches to pig and poultry production', supported by Wageningen Academic Publishers

Room: Piquete

Chair: Nilsson / Vigors

Session type: Young EAAP session

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Room: Ribeira

Chair: Montanholi / Druyan

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Session 12.

Social license to operate

Room: Arquivo

Chair: Evans

Session type: Challenge session

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Session 13.

Livestock emissions and the COP26 targets

Room: Infante

Chair: Lee / O'Mara

Session type: LFS; ATF

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Room: Auditório

Chair: Baes / Cecchinato

Session type: Theme session

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Room: D. Maria

Chair: Kotlarz / Kuipers

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Session 16. Integrated approach for sheep and goats Mediterranean farming systems

Room: D. Luís

Chair: Hadjipavlou / Marques

Session type: Working group session

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Session 17.

Role of nutrition in animal well-being

Room: Arrábida

Chair: Alvarez-Rodriguez / Kreuzer-Redmer

Session type: Industry session

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17.24	Effect of a new high fibre feed on blood biochemistry of outdoor finished male local pigs <i>J.M. Martins, R. Charneca, R. Varino, A. Albuquerque, A. Freitas, J. Neves, C. Marmelo, F. Costa, A. Ramos and L. Martin</i>	266
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17.30	Transcriptomic and proteomic analysis of omega-3 fatty acids in the porcine enterocytes <i>T. Sundaram, C. Giromini, R. Rebucci, S. Pisanu, D. Pagnozzi, M.F. Addis, M. Bhide, J. Pistl and A. Baldi</i>	269

Session 18.

Insect production and processing

Room: Porto

Chair: Deruytter / Murta

Session type: Theme session

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14:15 Low-value agricultural by-products as ingredients for black soldier fly larvae <i>M.T. Klaassen, E. Spoler, L. Star, J.L.T. Heerkens and T. Veldkamp</i>	270
14:30 Crate level climate control for BSFL rearing <i>J.W.M. Heesackers</i>	271
14:45 Novel heat-treatment sufficiently controls <i>Varroa</i> levels in honeybee colonies <i>C. Sandroek, J. Wohlfahrt, M. Hasselmann, W. Brunner and P. Brunner</i>	271
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15:15 Effect of six isoenergetic, isonitrogenous, isolipidic, waste-based substrates on adult life traits <i>A. Resconi, S. Bellezza Oddon, I. Biasato, Z. Loiotine, C. Caimi and L. Gasco</i>	272
15:30 Growth and chemical composition of BSF larvae on biowastes containing similar crude protein content <i>T. Veldkamp, K. Van Rozen, E.F. Hoek-Van Den Hil, P. Van Wikselaar, A. Rezaei Far, I. Fodor, H.J.H. Elissen and R.Y. Van Der Weide</i>	273
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16:30 Valorisation of local agricultural side-streams from Greece for <i>Tenebrio molitor</i> rearing <i>M. Vrontaki, C. Adamaki-Sotiraki, C.I. Rumbos, A. Anastasiadis and C.G. Athanassiou</i>	274
16:45 Practical guide to commercial BSF farming <i>B. Holtermans</i>	274
17:00 Bioconversion of olive pomace by black soldier fly larvae into a high-quality frass fertilizer <i>I.G. Lopes, T. Ribeiro, M.A. Machado, I. Vieira, R. Antunes, R. Nunes and D. Murta</i>	275
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18.15 Population dynamics during <i>Tenebrio molitor</i> pupation <i>C.L. Coudron and D. Deruytter</i>	277

18.16	<i>Hermetia illucens</i> and <i>Tenebrio molitor</i> : comparison between heat treatments for microbial reduction <i>C. Lucchetti, A. Grisendi, P. Bonilauri and M. Scremin</i>	277
18.17	Insect substrates: evaluation of efficiency indices <i>M. Ottoboni, M. Moradei, L. Ferrari, G. Ceravolo, R. Abbate, A. Luciano and L. Pinotti</i>	278
18.18	Bioconversion of olive pomace by black soldier fly larvae (<i>Hermetia illucens</i>) <i>R.F. Antunes, I.G. Lopes, T. Ribeiro, M.A. Machado, I. Vieira, R. Nunes and D. Murta</i>	278
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Session 19.

Pig health and welfare free communications

Room: Miragaia

Chair: Gottardo / Trevisi

Session type: Free communications / Bottom-up session

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14:15	Does reducing time in gestation stalls in early pregnancy affect sow welfare and performance? <i>M.C. Galli, M.E. Lagoda, F. Gottardo, B. Contiero and L.A. Boyle</i>	281
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16:30	ANOXIA(TM) versus T61® euthanasia method in pigs reveals no differential gene expression <i>B. Chakkingal, R. Meyermans, W. Gorssen, S. Janssens and N. Buys</i>	285

16:45	Effect of zearalenone at concentrations below and above EU recommendation in piglets after weaning <i>V.C. Bulgaru, G.C. Pistol, D.E. Marin, I. Taranu and A. Dinischiotu</i>	285
17:00	Minor influence of feed glyphosate on gut microbial ecology of weaned piglets <i>S. Rani, M.T. Sørensen, S.J. Noel, N.P. Nørskov, U. Krogh, L. Foldager and O. Højberg</i>	286
17:15	Reducing enterotoxigenic <i>E. coli</i> in young pig intestinal cell lines: the role of bacteriophages <i>A. Ferreira, C. Almeida, D. Silva, M.E. Rodrigues, M. Henriques, J. Azeredo and A. Oliveira</i>	286
17:30	Consequences of anaemia in sows on their reproductive performance and on the long-term pigs' growth <i>A. Samson, F. Guillard, E. Janvier, J. Martrenchar and J. Pique</i>	287

Session 20.

Influence of nutrition on reproductive performance

Room: S. João

Chair: Lamb / Sanz

Session type: Theme session

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14:30	Integrative network analysis on the nutrigenomic control of reproductive development in cattle <i>K. Keogh and D.A. Kenny</i>	288
15:00	Influence of trace minerals on metabolic processes related to reproduction in ruminants <i>T.E. Engle</i>	288
15:30	Impact of early life nutrition on the molecular control of sexual development in the bull calf <i>D.A. Kenny, S. Coen and K. Keogh</i>	289
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17:00	Nutritional programming of puberty in <i>Bos indicus</i> -influenced heifers <i>R. Cardoso, S. West, V. Garza and G. Williams</i>	290
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Session 21.

Early career competition 'Innovative approaches to pig and poultry production', supported by Wageningen Academic Publishers

Room: Piquete

Chair: Nilsson / Vigors

Session type: Young EAAP session

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14:15	Are biters sick – studies on the health status of tail biters <i>I. Czyncholl, D. Becker, C. Schwennen, C. Puff, M. Wendt, W. Baumgärtner and J. Krieter</i>	292
14:30	Effect of various short-term events on behaviours of gestating sows <i>M. Durand, J. Abarnou, A. Julienne, C. Orsini and C. Gaillard</i>	293
14:45	Contact voltages exposure lower than 0.5 V in feeders and drinkers affects the behaviour of piglets <i>T. Nicolazo, C. Clouard, G. Boulbria, E. Merlot, A. Lebre, C. Chevance, J. Jeusselin, V. Normand and C. Teixeira-Costa</i>	293
15:00	Intra-uterine growth restriction affects growth performances but not the body composition at weaning <i>R. Ruggeri, G. Bee, P. Trevisi and C. Ollagnier</i>	294
15:15	The use of thermal imaging and salivary biomarkers during the periparturient period of sows <i>M. De Vos, S. Tanghe, Q. Duan, B. Loznik, M. Ubbink-Blanksma and R. D'Inca</i>	294
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21.08	Effects of <i>Lactobacillus</i> spp. encapsulated probiotic on performance and faecal microbial in piglets <i>N.A. Lefter, M. Hăbeanu, M. Dumitru, A. Gheorghe and L. Idriceanu</i>	295

Scientific programme

Tuesday 6 September

Session 22.

Plenary session

Room: Arquivo
Chair: Casasús
Session type: Plenary session

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9:00 Carving a path across 'g-local' challenges: wildlife responses to human disturbance in the European 'anthroscape' <i>invited</i> F. Cagnacci	296
9:30 The coexistence of wildlife and livestock: sanitary aspects <i>invited</i> C. Gortázar	296
10:00 Management and technologies for conflict mitigation between wildlife and breeding of livestock <i>invited</i> K. Jerina	297
10:30 Coffee break	
11:00 Wild or domesticated – cultural interpretation and contested boundaries <i>invited</i> K. Skogen	297
11:30 Animal source foods and the nature-culture divide <i>invited</i> F. Leroy	298

Session 23.

Young EAAP

Room: Arquivo
Chair: Wallgren
Session type: Young EAAP session

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14:00 Presentation techniques and open science T. Wallgren, I. Adriaens and M. Pszczola	298

Session 24. Balancing metrics of impacts and services to assess sustainability

Room: Infante
Chair: da Silva / Thenard
Session type: Theme session

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14:00 Environmental impacts and services of ruminant livestock: overview and insights from Portugal <i>invited</i> T. Domingos	299
14:30 The role of farm animals in the agroecological transition: evidence from a global FAO tool A. Mottet, D. Lucantoni, A. Bicksler and R. Sy	299
14:45 Exploring the 'indicator explosion' for the European livestock sector B. Van Der Veeken, M. Carozzi, C. Barzola Iza and F. Accatino	300

15:00	Norwegian wood: a key to sustainable feed production and improved land use efficiency? <i>H. Møller, S. Samsonstuen and H.F. Olsen</i>	300
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15:30	Mapping indicators of farming systems' robustness to input constraints: a French case study <i>C. Pinsard and F. Accatino</i>	301
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17:45	Complementarity between production basins to ensure optimal supply of organic lambs along the year <i>M. Benoit, V. Bellet, M. Miquel, S. Béziat and C. Experton</i>	305

Session 25.

ClearFarm: A platform to control animal welfare in pig and cattle farming

Room: Auditório

Chair: Pastell / Llonch

Session type: Project session

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14:30 Bringing precision livestock farming data to consumers – evidence from a conjoint analysis <i>C. Krampe, J.K. Niemi, J. Serratosa and P.T.M. Ingenbleek</i>	306
15:00 Analysis of quality schemes: how far are we from data-driven and animal-based welfare assessment? <i>A. Stygar, C. Krampe, P. Llonch and J. Niemi</i>	306
15:15 Individual feeding patterns as indicators of pig welfare <i>E.A.M. Bokkers, J.D. Bus, J. Engel, R. Wehrens and I.J.M.M. Boumans</i>	307
15:30 Validating play behaviour as a positive welfare indicator in pigs (<i>Sus scrofa</i>) around weaning <i>G. Amorim Franchi, M.L.V. Larsen, I.H. Kristoffersen, J.F.M. Winters, M.B. Jensen and L.J. Pedersen</i>	307
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16:15 Comparative study between scan sampling observations and automatic monitoring image systems in pigs <i>Q. Allueva-Molina, H.-L. Ko, Y. Gómez, P. Fuentes Pardo, X. Manteca and P. Llonch</i>	308

16:30	Classification of dairy cattle welfare status using sensor data – ClearFarm pilot studies <i>A. Stygar, L. Frondelius, G. Berteselli, Y. Gómez, E. Canali, J. Niemi, P. Llonch and M. Pastell</i>	308
16:45	Behavioural traits from accelerometers to alert the potential occurrence of acidosis in dairy cows <i>Y. Gómez, G. Berteselli, E. Dalla Costa, E. Canali, D. Ruiz, X. Manteca and P. Llonch</i>	309
17:00	Correlations between environmental data with activity level and respiratory health by PLF sensors <i>H.-L. Ko, P. Fuentes Pardo, X. Manteca and P. Llonch</i>	309
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25:12	Correlation of physiology and behaviour traits from PLF sensors with salivary biomarkers in dairy cow <i>Y. Gómez, M. Contreras, J. Cerón, D. Ruiz, X. Manteca and P. Llonch</i>	311

Session 26.

Climate care dairy farming

Room: D. Maria

Chair: Galama / Hristov

Session type: Theme session

Theatre Session 26

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14:45	Rethinking methane from animal agriculture <i>F. Mitloehner</i>	312
15:15	Effective nutritional strategies to mitigate enteric methane in dairy cattle <i>A.N. Hristov, A. Melgar, D. Wasson and C. Arndt</i>	313
15:45	Coffee break	
16:15	Challenges for climate care dairy farming in the Netherlands <i>P.J. Galama, J. Zijlstra and A. Kuipers</i>	313
16:45	First results of a screening method for GHG emission measurements in European dairy cattle barns <i>X. Vergé, P. Robin, V. Becciolini, A. Cieślak, N. Edouard, L. Fermer, P. Galama, P. Hargreaves, V. Juškienė, G. Kadžiene, H. Schilder, L. Leso, A.-S. Lissy, J. Priekulis, B. Rees, D. Ruska and M. Szumacher-Strabel</i>	314
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17:30	Nitrogen excretion and ammonia emissions in dairy cows fed low-N fresh grass and maize silage <i>M. Ferreira, R. Delagarde and N. Edouard</i>	315
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26.11 NMVOC emissions from a naturally ventilated dairy housing – comparison of different diets <i>S. Schrader, M. Zaehner, K. Zeyer, S. Wyss, D. Steger, J. Mohn and F. Dohme-Meier</i>	316
26.12 Simulation of enteric methane emission friendly management strategies in Danish dairy herds <i>V.M. Thorup, A.B. Kudahl, L. Chen and S. Østergaard</i>	317
26.13 <i>Asparagopsis taxiformis</i> infused vegetable oils: a solution to reduce ruminant methane emissions <i>D.M. Soares, R. Torres, A.M. Campos, A.P. Portugal, M.T. Dentinho, L. Mata and R.J. Bessa</i>	317
26.14 Polyphenols in apple pomace decrease ruminal methane production in dairy cows <i>A.C. Cieślak, J.A. Jóźwik, H.J. Horbańczuk, K.M. Kozłowska, G.M. Gogulski, S.M. Skorupka, W.B. Wyrwał, J.W. Jaworski, P.D. Petric and S.Z.S.M. Szumacher-Strabel</i>	318
26.15 Life cycle assessment of current and future pasture-based dairy production systems <i>J. Herron, D. O'Brien and L. Shalloo</i>	318
26.16 Water quality in dairy cattle farms: impact on animal production, reproduction and health <i>V. Resende</i>	319

Session 27.

Breeding for health, welfare and longevity

Room: D. Luís

Chair: Egger-Danner / Cecchinato

Session type: Free communications / Bottom-up session

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14:30 Transcriptomic map of mastitis in dairy cows: clues on <i>S. agalactiae</i> and <i>Prototheca</i> infections <i>V. Bisutti, N. Mach, D. Giannuzzi, E. Capra, R. Negrini, P. Ajmone-Marsan, A. Cecchinato and S. Pegolo</i>	320
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16:15 Role of genetics in swine inflammation and necrosis syndrome – SINS <i>N.G. Leite, E.F. Knol, S. Nuphaus, R. Vogelzang and D. Lourenco</i>	322
16:30 Usefulness of the claw-position score for genetic evaluations to reduce lameness incidence <i>A. Köck, L. Lemmens, M. Suntinger, M. Gehringer, G. Berger, F.J. Auer and C. Egger-Danner</i>	323
16:45 Breed-dependent genetic variants altered the immune capacity in dairy and beef cattle bulls <i>M. Saeed-Zidane, A. Yousif, I. Blaj and G. Thaller</i>	323

17:00	Breeding strategies for calf health and leukosis: challenges and opportunities <i>C.F. Baes, R. Bongers, C. Lynch, F.S. Schenkel, K. Houlihan, N. Van Staaveren, H. Oliveira and F. Miglior</i>	324
17:15	Persistence of genomic evaluations with different reference populations in pigs and broilers <i>I. Misztal, M.K. Hollifield, J. Hidalgo, S. Tsuruta, M. Bermann and D. Lourenco</i>	324
17:30	Tail biting and its precursors have distinctive gene-expression profiles in protein-restricted pigs <i>L. Couteller, L. Roch, E.O. Ewaoluwaogbemiga and C. Kasper</i>	325

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Session 28. SmartCow: Methods and technologies for research and smart nutrition management in dairy and beef cattle

Room: Arrábida

Chair: Baumont / Abdenneby-Najar

Session type: Project session

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Genetics, physiology, and behaviour of insects

Room: Porto

Chair: Sandrock / Lefebvre

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Improving animal welfare to increase animal health, performance and reduce the use of medication

Room: Miragaia

Chair: Boyle / Costa

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Session 31. Development of novel sheep and goat products for human consumption

Room: S. João

Chair: Lorenzo / Hernández

Session type: Theme session

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Session 32.

Role of pork in circular food production

Room: Piquete

Chair: Bee / Millet

Session type: Theme session

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32:17	Analysis of monitoring data on per- and polyfluoroalkyl substances (PFAS) in German wild boars <i>R.H. Mateus-Vargas, D. Maaz, A. Mader, R. Pieper, J. Steinhoff-Wagner and J. Kowalczyk</i>	372

Session 33.**Breeding for performance**

Room: Ribeira

Chair: Cox

Session type: Theme session

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Scientific programme

Wednesday 7 September

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Chair: Granados / Kaya
Session type: Project session

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Room: Infante
Chair: Boland
Session type: Project session

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Sensing animals and fields to improve pasture and rangeland management

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Chair: Maroto Molina

Session type: Theme session

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Chair: Edouard / Kuipers

Session type: Theme session

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Chair: Berard / Giller

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Session 39. New/alternative/innovative/revised feeds in farm animals and farmed fish

Room: Arrábida

Chair: Ranilla García / Pinotti

Session type: Theme session

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39.32	Preliminary remarks on tobacco cv. <i>Solaris</i> seed cake in growing cattle diet <i>A. Fatica, F. Fantuz, C. Sacchetto, A. Ferro and E. Salimei</i>	442
39.33	Can dietary algae blend modulate the fatty acids composition of lamb meat? <i>C.S.C. Mota, A.S. José, V.A.P. Cadavez, R. Domínguez, J.M. Lorenzo, U. Gonzales-Barron, A.R.J. Cabrita, H. Abreu, J. Silva, A.J.M. Fonseca and M.R.G. Maia</i>	442
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39.42	Marine sources in dog feeding: nutritive value and palatability of squid meal and shrimp hydrolysate <i>J. Guilherme-Fernandes, T. Aires, A.J.M. Fonseca, M.R.G. Maia, S.A.C. Lima and A.R.J. Cabrita</i>	447

Session 40.

INSECTDOCTORS/INSECTFEED

Room: Porto

Chair: Veldkamp / Van Oers / Dicke

Session type: Project session

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8:30	INSECT DOCTORS: a European training program focusing on pathogens that threaten mass reared insects <i>M.M. Van Oers</i>	447
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8:45	Nanopore-based diagnostics and surveillance of pathogens in mass-reared insects <i>F.S. Lim, J. González Cabrera, R.G. Kleespies, J.A. Jehle and J.T. Wennmann</i>	448
9:00	Probiotics impact on <i>Tenebrio molitor</i> performance, microbial composition and pathogen infection <i>C. Savio, P. Herren, A. Rejas, A. Bruun Jensen, J.J.A. Van Loon and C. Nielsen-Leroux</i>	448
9:15	Impact of heat stress on immunity, fitness & susceptibility to a fungal pathogen in <i>Tenebrio molitor</i> <i>P. Herren, A.M. Dunn, N.V. Meyling and H. Hesketh</i>	449
9:30	Effect of co-stressing on the viral abundance of the <i>Acheta domesticus</i> densovirus in house crickets <i>J. Takacs, V. Ros, J.J.A. Van Loon and A. Bruun Jensen</i>	449
9:45	Expanding the medfly virome: viral diversity, prevalence, and sRNA profiling in medflies <i>L. Hernández-Pelegrín, A. Llopis-Giménez, C. Maria Crava, F. Ortego, P. Hernández-Crespo, V.I.D. Ros and S. Herrero</i>	450
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10:45	InsectFeed – insects as sustainable feed for a circular economy: value chain development <i>M. Dicke</i>	451
11:00	Preference of black soldier fly larvae for feed substrate previously colonised by conspecific larvae <i>Y. Kortsmit, J.J.A. Van Loon and M. Dicke</i>	451
11:15	Two behaviours related to welfare in housefly (<i>Musca domestica</i>) production <i>M. Van Der Bruggen, E.I. Michail, J. Falcao Salles, B. Wertheim and L.W. Beukeboom</i>	452
11:30	Innate immune system of house flies and black soldier flies <i>M. Vogel, P.N. Shah, A. Voulgari-Kokota, S. Maistrou, Y. Aartsma, L.W. Beukeboom, J. Falcao Salles, J.J.A. Van Loon, M. Dicke and B. Wertheim</i>	452
11:45	The effect of entomopathogenic <i>Bacillus thuringiensis</i> on housefly development <i>A. Voulgari Kokota, R. Slijfer, L.W. Beukeboom, J.F. Salles and B. Wertheim</i>	453
12:00	Effect of feeding black soldier fly products on performance and health of slow-growing broilers <i>A. Dorper, H. Berman, G. Gort, M. Dicke and T. Veldkamp</i>	453
12:15	Economic modelling of Insect-fed broiler value chains: processed quantities and feasibility analysis <i>M. Leipertz, H.W. Saatkamp and H. Hogeveen</i>	454

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Session 41. Development and external validation of PLF tools for animal behaviour, health and welfare: pigs, sheep, beef and poultry

Room: Miragaia

Chair: Maselyne / Minozzi

Session type: Theme session

Theatre Session 41

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8:30	Evaluation of the physical activity of a group of gestating sows using an artificial neural network <i>M. Durand, M. Simon, J. Foisil, J.Y. Dourmad, C. Largouët and C. Gaillard</i>	455
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8:45	Automatic classification of agonistic behaviour in groups of pigs – different modelling approaches <i>F. Hakansson and D. Børge Jensen</i>	455
9:00	Early detection of diarrhoea in weaned piglets from individual feed, water and weighing data <i>J. Thomas, Y. Rousselière, M. Marcon and A. Hémonic</i>	456
9:15	Effect of an automatic enrichment device on the behaviour of weaner pigs <i>P. Hesecker, J. Probst, S. Ammer, I. Traulsen and N. Kemper</i>	456
9:30	Digital drug registration and its value for herd management of pigs <i>H. Görg, I. Dittrich, N. Kemper and J. Krieter</i>	457
9:45	Heart rate of sows obtained by image photoplethysmography under farm conditions <i>W. Kuiken, P.P.J. Van Der Tol, A.J. Scaillierez, I.J.M.M. Boumans, H. Broers and E.A.M. Bokkers</i>	457
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11:00	Automatic behaviour assessment of young bulls in pen using machine vision technology <i>C. Mindus, J. Manceau, V. Gauthier, C. Dugué, L.A. Merle, X. Boivin, and A. Cheype</i>	459
11:15	Automatic video-based classification piling behaviour in poultry <i>D.B. Jensen, M. Toscano, J. Winter, A. Stratmann, E. Van Der Heide, M. Grønvig and F. Hakansson</i>	459
11:30	Using ultra-wideband backpacks to track broiler chickens in commercial housing <i>M. Baxter and N.E. O'Connell</i>	460

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41.13	Relationship between packed cell volume and gastrointestinal nematodes in sheep through NIRS <i>A.C.S. Chagas, I.B. Santos, A.U.C. Ferreira, M.D. Rabelo, L.A. Anholeto and S.N. Esteves</i>	461
41.14	Precision livestock farming to study relationship between feed intake and milk production in sheep <i>A. Ledda, S. Carta, L. Falchi, A.S. Atzori, A. Cesarani, F. Correddu, G. Battacone and N.P.P. Macciotta</i>	461
41.15	Introducing the aWISH project: animal welfare indicators at the slaughterhouse <i>J. Maselyne, T. Coppens, A. Watteyn, A. De Visscher, E. Kowalski, M. Aluwé and F. Tuytens</i>	462
41.16	Stakeholders' perceptions of precision livestock farming to improve small ruminant welfare <i>E.N. Sossidou, E.G. Garcia, M.A. Karatzia, L.T. Csiszter, A. Elhadi, L. Riaguas, G. Caja, A. Barnes, J.M. Gautier, T. Keady, I. Halachmi, G. Molle, L. Grova and C. Morgan-Davies</i>	462
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Chair: Huber / Kelly

Session type: Theme session

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9:15	Effect of concentrate feeding on adipose prostanooids and oxylipins in dairy calves <i>R. Khiaosa-Ard, S. Sharma and Q. Zebeli</i>	464
9:30	Reducing endocannabinoid system activation affects insulin sensitivity in peripartum dairy cows <i>G. Kra, J.R. Daddam, U. Moallem, H. Kamer, R. Kocvarova, A. Nemirovski, G.A. Contreras, J. Tam and M. Zachut</i>	464
9:45	Effect of calthood nutrition on insulin kinetics and insulin signalling pathway genes in muscle <i>A.K. Kelly, C. Byrne, K. Keogh, M. McGee and D.A. Kenny</i>	465
10:00	Effects of dietary P and Ca supply on phosphate homeostasis and insulin signalling in laying hens <i>A. Abdi, F. Gonzalez-Uarquin, V. Sommerfeld, M. Rodehutsord and K. Huber</i>	465
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10:45	Targeted metabolomics reveal differences between Holstein and Simmental cows adapting to lactation <i>L.F. Ruda, C. Straub, A. Scholz and K. Huber</i>	466
11:00	Effects of systemic inflammation on liver telomere length and mitochondrial DNA copy numbers <i>K.D. Seibt, M.H. Ghaffari, J. Frahm and H. Sauerwein</i>	466
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11:30	Urolithin A as new strategy to rescue the quality and developmental potential of aged oocytes <i>E. Fonseca, C.C. Marques, M.C. Baptista, J. Pimenta, A.C. Gonçalves and R.M.L.N. Pereira</i>	467
11:45	Assessment of exosomal microRNA profiles in bovine colostrum with different IgG concentrations <i>T.M. Ma, W.L. Li, Y.C. Chen, E.R.C. Cobo, C.W. Windeyer, L.G. Gamsjäger, Q.D. Diao, Y.T. Tu and L.L.G. Guan</i>	468
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42.12	MitoCow: L-carnitine supplements alter the response of mid-lactation cows to systemic inflammation <i>M.H. Ghaffari, H. Sadri, S. Häußler, J. Frahm and H. Sauerwein</i>	469
42.13	MitoCowLiver gene expression of mitochondrial dynamics related to inflammation and dietary carnitine <i>M.H. Ghaffari, H. Sadri, S. Häußler, J. Frahm and H. Sauerwein</i>	469
42.14	Steroid hormones and acute-phase proteins in lactating dairy cows fed with olive by-products <i>A. Bionda, E. Fazio, V. Chiofalo, D. La Fauci, P. Crepaldi and L. Liotta</i>	470
42.15	Serum acylcarnitine profiles in dairy cows from late gestation through early lactation <i>H. Sadri, M.H. Ghaffari, J.B. Daniel and H. Sauerwein</i>	470

Session 43.

Challenges in poultry nutrition, health and welfare (1)

Room: Piquete

Chair: Stadnicka / Daş

Session type: Working group session

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9:00 Can monitoring of keel bone and skin damage at the slaughterhouse tell about hen welfare on-farm? L. Jung, B. Kulig, H. Louton and U. Knierim	471
9:15 Efficacy of dietary selenium-loaded chitosan nanoparticles in rabbits and broiler chickens G. Papadomichelakis, S. Fortatos, E. Giamouri, A.C. Pappas and S.N. Yannopoulos	472
9:30 Animal welfare in broilers free-range and organic systems: economic implications at farm level P. Thobe, M. Almadani, M. Coletta, J. Hercule, A. Collin and J. Niemi	472
9:45 Riboflavin supply of different turkey lines fed diets with an organic-compliant riboflavin product B. Thesing, P. Weindl, S. Göppel, S. Born, P. Hofmann, C. Lambertz and G. Bellof	473
10:00 <i>In vitro</i> anthelmintic evaluation of petroleum ether plant extracts against <i>Ascaridia galli</i> I. Pouloupoulou, M.J. Horgan, B. Siewert, L. Palmieri, E. Martinidou, S. Martens, P. Fusani, V. Temml, H. Stuppner and M. Gauly	473
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10:45 Effect of key husbandry factors on chicken meat and carcass quality <i>invited</i> J. Marchewka, P. Sztandarzki, M. Solka, H. Louton, E. Rauch, K. Rath, L. Vogt, W. Vogt-Kaute, D. Ruijter and I.C. De Jong	474
11:15 Effects of hatching system and enrichment on broiler chickens' behaviour J. Malchow, E.T. Krause, R. Molenaar, M.F. Giersberg and L. Schrader	474
11:30 Personality traits and exploratory behaviour of free-range slow growing broilers C. Bonnefous, L. Calandreau, E. Le Bihan-Duval, V.H.B. Ferreira, A. Barbin, A. Collin, M. Reverchon, K. Germain, L. Ravon, N. Kruger, S. Mignon-Grasteau and V. Guesdon	475
11:45 Diagnostic performance of a copro-antigen ELISA to assess nematode infections in chickens O.J. Oladosu, M. Hennies, M. Stehr, C.C. Metges, M. Gauly and G. Daş	475
12:00 Feather pecking and cannibalism of non-beaktrimmed turkeys in organic husbandry D. Haug, B. Thesing, S. Göppel, S. Born, R. Schreiter, C. Lambertz, G. Bellof and E. Schmidt	476

Session 44. Sheep and goat production systems in mountain areas – where are we and where are we going?

Room: Ribeira

Chair: Gauly / Cannas

Session type: Working group session

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8:30 Trends in mountain sheep farming in Europe over the past 40 years – challenges and opportunities <i>invited</i> C. Morgan-Davies, T. Zanon, M.K. Schneider, C.M. Pauler, Ø. Holand, A. Bernués, P. Dovc, M. Gauly and G. Cozzi	476

9:15	Mountain Sheep in Polish Carpathians – centuries of tradition and present day <i>A. Kawęcka, M. Puchała, M. Pasternak and J. Sikora</i>	477
9:30	Attacks of wolves (<i>Canis lupus</i>) on the herds of native breeds of sheep in the Polish Carpathians <i>M. Pasternak, M. Puchała, A. Kawęcka and J. Sikora</i>	477
9:45	Welfare assessment of dairy goats extensively reared in mountain ranges <i>S. Mattiello, M. Renna, L. Battaglini and M. Battini</i>	478
10:00	Prediction of sheep daily gain in Swiss sheep populations <i>A. Burren, C. Aeschlimann and H. Joerg</i>	478
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10:45	Association of farming descriptors with sheep bulk-milk quality from semi-extensive flocks <i>S. Caddeo, D. Brugnone, N. Amalfitano, G. Bittante, G.M. Vacca and M. Pazzola</i>	479
11:00	Relationships between the rumen ciliate protozoa, carcass characteristics and lamb meat quality <i>A.E. Francisco, J. Santos-Silva, A.P. Portugal, J.M. Almeida and R.J.B. Bessa</i>	479
11:15	Effects of ewes' GH2-Z genotypes on milk parameters and fresh cheese traits <i>M.R. Marques, J.M. Almeida, J.M.B. Ribeiro, A.P.L. Martins, C.C. Belo and A.T. Belo</i>	480
11:30	The role of the lactose in the milk coagulation properties of Sarda dairy sheep <i>S. Carta, F. Correddu, A. Cesarani and N.P.P. Macciotta</i>	480

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44.10 Relationship between bacterial communities and volatile aroma compounds of a ewe's raw milk cheese <i>G. Santamarina-García, G. Amores, I. Hernández and M. Virto</i>	481
44.11 Goat milk fatty acid profile as affected by the inclusion of cocoa bean shell in the goat diet <i>M. Renna, C. Lussiana, L. Colonna, V.M. Malfatto, A. Mimosi and P. Cornale</i>	481
44.12 The impact of bacterial shifts on several quality and safety parameters of a ewe's raw milk cheese <i>G. Santamarina-García, G. Amores, I. Hernández and M. Virto</i>	482
44.13 May dietary fatty acids with antilipogenic effect influence milk fat content in sheep? <i>A. Della Badia, G. Hervás, R. Gervais, P. Frutos and P.G. Toral</i>	482
44.14 The growth, feed intake and back fat deposition of South African Boer goats <i>T.S. Brand, J.P. Van Der Westhuizen and J.H.C. Van Zyl</i>	483

Session 45. Breeding for environmentally important traits (e.g. methane emission, feed efficiency etc.)

Room: Arquivo
Chair: Pszczola / Manzanilla
Session type: Theme session

Theatre Session 45	Book of Abstracts page
14:00 Breeding strategies to reduce methane emission from dairy cattle in 10 years <i>O. González-Recio, J. López-Paredes, A. Saborío-Montero, A. López-García, M. Gutiérrez-Rivas, I. Goiri, R. Atxaerandio, E. Ugarte, N. Charfeddine, J.A. Jiménez-Montero and A. García-Rodríguez</i>	483
14:30 Breeding for carbon neutrality, the role of the rumen <i>S.J. Rowe, T. Bilton, M. Hess, S. Hickey, R. Jordan, C. Smith, H. Henry, L. McNaughton, P. Smith, P. Paraza, G. Noronha, H. Flay, J. Budel and J.C. McEwan</i>	484

14:45	Building the capacity to reduce enteric methane emissions in Canadian dairy cattle <i>H.R. Oliveira, F. Malchiodi, S. Shadpour, G. Kistemaker, D. Hailemariam, G. Plastow, F.S. Schenkel, C.F. Baes and F. Miglior</i>	484
15:00	Breeding for feed efficient and low methane-emitting dairy cows is feasible <i>C.I.V. Manzanilla-Pech, R.B. Stephensen, G.F. Difford, P. Løvendahl and J. Lassen</i>	485
15:15	A novel microbiome-driven breeding strategy for feed intake and mitigation of methane emissions <i>R. Roehe, M. Martínez-Álvaro, J. Mattock, Z. Weng, R.J. Dewhurst, M.A. Cleveland and M. Watson</i>	485
15:30	Lactation modelling and effects of crossbreeding on milk production and enteric-methane-emissions <i>G. Martínez-Marín, H. Toledo-Alvarado, N. Amalfitano, L. Gallo and G. Bittante</i>	486
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16:15	Links between gut microbiome functions and feed efficiency in two divergently selected pig lines <i>A. Cazals, O. Zemb, A. Aliakbari, Y. Billon, H. Gilbert and J. Estelle</i>	486
16:30	Genomic predictions for residual feed intake in Italian Simmental <i>A. Cesarani, L. Degano, A. Romanzin, D. Vicario, M. Spanghero and N.P.P. Macciotta</i>	487
16:45	Identification of genomic variants for feed efficiency in pigs using whole genome sequencing <i>A. Parveen, T. Sweeney and S. Vigors</i>	487
17:00	Genetic correlations between feed efficiency, production and fertility in Nordic Red Dairy cattle <i>T. Mehtio, E. Negussie, E.A. Mäntysaari, G.P. Aamand and M.H. Lidauer</i>	488
17:15	A transgenerational study on the effect of Great Grand Dam birth month on production traits in Itali <i>N.P.P. Macciotta, L. Degano, D. Vicario, C. Dimauro and A. Cesarani</i>	488
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45.12	Genetic parameters for methane emission and its relationship with milk yield and composition <i>H. Ghiasi, D. Piwczyński, B. Sitkowska and M. Kolenda</i>	489
45.13	Skeletal muscle miRNA profiling in Charolais steers divergent for feed efficiency potential <i>K. Keogh, M. McGee and D.A. Kenny</i>	489
45.14	<i>In silico</i> analyses reveals a deletion in TRIM40 promoter gene: a possible role in feed efficiency <i>L.L. Verardo, M.A. Machado, J.C.C. Panetto, I. Carolino, N. Carolino and M.V.G.B. Silva</i>	490
45.15	Associating gut microbiome with residual energy intake in dairy cows using extreme gradient boosting <i>M. Tapio, P. Mäntysaari and I. Tapio</i>	490
45.16	Genome wide association study of compensatory growth in Irish and Canadian cattle <i>T. Carthy, A.K. Kelly, K. Keogh, Y. Mullins, D.A. Kenny, C. Li and S.M. Waters</i>	491
45.17	Selection for growth and the impact on production efficiency indicators in Nellore cattle <i>J.N.S.G. Cyrillo, S.F.M. Bonilha, R.C. Canesin, R.H.B. Arnandes, L.F. Benfica and M.E.Z. Mercadante</i>	491
45.18	ATP1A1 and NPY gene expression associated with heat stress and residual feed intake in beef cattle <i>B.V. Pires, N.B. Stafuzza and C.C.P. Paz</i>	492
45.19	Increased reproductive performance and lamb productivity as mitigation options in sheep production <i>B.A. Åby, S. Samsonstuen and L. Aass</i>	492
45.20	Genetic effect on the feed to muscle gain ratio of growing purebred pigs <i>G. Dumas, C. Hassenfratz, M. Monziols and C. Larzul</i>	493

Session 46.

The role of local (plant and animal) resources in the resilience of livestock farming systems

Room: Infante

Chair: Pouloupoulou / Sturaro

Session type: Discovery session

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14:30	The role of camels as a lever enhancing the pastoral households resilience around N'Djamena (Chad) M.A. Mahamat Ahmat, G. Duteurtre, M.O. Koussou and C.H. Moulin	494
14:45	Determine breed proportion and suitable percentage of dairyness in Ethiopian smallholder dairy farm S. Meseret, R. Mrode, J.M.K. Ojango, E. Chinyere, G. Gebreyohanes, A. Hassen, A. Tera, B. Jufar and A.M. Okeyo	494
15:00	Analysis of key typologies for integrated dairy-fodder crop systems in Europe: A NUTS2 approach X. Díaz De Otálora, F. Dragoni, A. Del Prado, F. Estellés, V. Anestis and B. Amon	495
15:15	Farm to fork: the story of local Israeli 'dairy beef' M. Cohen-Zinder, E. Shor-Shimoni, R. Agmon and A. Shabtay	495
15:30	Reducing concentrates supply level in Alpine dairy farms: a consequential-based LCA model M. Berton, S. Bovolenta, M. Corazzin, L. Gallo, M. Ramanzin and E. Sturaro	496
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Room: Auditório

Chair: Knijn / Kargo

Session type: Theme session

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Session 48.

Climate care dairy farming

Room: D. Maria
Chair: Keatinge / Ruska
Session type: Theme session

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Session 49. High quality and sustainable milk and meat products from cattle

Room: D. Luís

Chair: De Marchi / Visentin

Session type: Theme session

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Session 50.

Nutrition and environment

Room: Arrábida

Chair: Bruggeman / Goselink

Session type: Theme session

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Session 51. Workshop on multi-stakeholder views on using insects as feed

Room: Porto

Chair: Dicke / Veldkamp

Session type: Challenge session

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Session 52. Development and external validation of PLF tools for animal behaviour, health and welfare: dairy, in collaboration with ICAR

Room: Miragaia

Chair: Minozzi / Maselyne

Session type: Theme session

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Session 53. Heat stress and other adaptations to implications of climate change

Room: S. João

Chair: Montanholi / Mateescu

Session type: Theme session

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14:15	Response of pre-weaned calves to an enhanced milk replacer under heat stress conditions <i>A.A.K. Salama, S. Serhan, S. Gonzalez-Luna, S.A. Guamán, A. Elhadi, L. Ducrocq, M. Biesse, J. Joubert and G. Caja</i>	556
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14:45	Organic acids and botanicals supplementation improves protein metabolism in heat-stressed dairy cows <i>A.B.P. Fontoura, V. Sáinz De La Maza-Escolà, A. Javaid, E. Grilli and J.W. McFadden</i>	557

15:00	Understanding the genetic architecture of the thermotolerance – production complex in beef cattle <i>R.G. Mateescu, F.M. Rezende, K.M. Sarlo Davila, A.N. Nunez, A. Hernandez and P.A. Oltenacu</i>	557
15:30	Single-step genomic predictions for heat tolerance of US Holstein and Jersey bulls <i>T.M. McWhorter, M. Sargolzaei, C.G. Sattler, M.D. Utt, S. Tsuruta, I. Misztal and D. Lourenco</i>	558
15:45	Coffee break	
16:15	Host transcriptome and microbiome data integration in Chinese Holstein cattle under heat stress <i>B. Czech, J. Szyda and Y. Wang</i>	558
16:30	Liver transcriptomics of sensitive and heat tolerant dairy sheep phenotypes <i>S. González-Luna, B. Chaalia, X. Such, G. Caja, M. Ramon, M.J. Carabaño and A.A.K. Salama</i>	559
16:45	Heat stress effects on the metabolome profile of blood and semen plasma of Iberian pigs <i>M. Muñoz, P. Palma-Granados, F. García, G. Gómez, G. Matos, C. Óvilo and J.M. García-Casco</i>	559
17:00	<i>In utero</i> heat stress and post-natal feeding behaviour, growth and carcass performance in pigs <i>D. Renaudeau, A.M. Serviento, B. Blanchet, M. Monziols, C. Hassenfratz and G. Daumas</i>	560
17:15	Water sprinkling during lairage reduces impact of heat stress in slaughter pigs <i>A. Van Den Broeke, L. De Prekel, B. Ampe, D. Maes and M. Aluwé</i>	560
17:30	A feed additive package mitigate heat-induced productivity losses in lactating sows <i>E. Jiménez-Moreno, D. Carrion, D. Escribano, C. Farias-Kovac and Y. Lechevestrier</i>	561
17:45	The effect of a summer feed with selenium, vitamin E, vitamin C and betaine in fattening pigs <i>L. De Prekel, D. Maes, A. Van Den Broeke, B. Ampe and M. Aluwé</i>	561
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53.15	Transcriptomic comparison under different temperature humidity index in growing pig <i>J.-E. Park, H. Kim, Y. Kim and M. Song</i>	562
53.16	A meta-analysis on the impact of heat stress on ruminants' welfare and production <i>J.N. Morgado, E. Lamonaca, F. Santeramo, M. Caroprese, M. Albenzio and M.G. Ciliberti</i>	563
53.17	Effect of a standardized dry grape extract supplementation in late gestating sows in a hot climate <i>P. Engler, A. Frio and M.E.A. Benarbia</i>	563
53.18	MOET efficiency in a Spanish Japanese black herd and effects of environmental and metabolic markers <i>A. Fernández-Novo, J.M. Vázquez-Mosquera, M. Bonet-Bo, N. Pérez-Villalobos, J.L. Pesántez-Pacheco, A. Heras-Molina, M.L. Pérez-Solana, E. De Mercado, J.C. Gardón, A. Villagrà, F. Sebastián, S.S. Pérez-Garnelo, D. Martínez and S. Astiz</i>	564
53.19	SCALA-MEDI: sheep and chicken sustainability in the Mediterranean area <i>P. Ajmone-Marsan, B. Benjelloun, M. Benlarbi, A. Carta, G. Chillemi, S.S. Gaouar, H. El-Hentati, A. Jannoune, C. Jerrari, H. Kemiri, V. Loywyck, N. H'hamdi, N. Tabet-Aoul, A. Stella, M. Tixier-Boichard, R. Valentini and G. Zitouni</i>	564
53.20	Mapping Italian caprine genetic resources: local distribution and environmental risk <i>M. Cortellari, A. Bionda, A. Negro, S. Grande and P. Crepaldi</i>	565
53.21	Milk microbiota variability in healthy Holstein and Brown Swiss cows exposed to hyperthermia <i>C. Lecchi, P. De Palo, S. Di Mauro, M. Ciccola, A. Bragaglio, P. Cremonesi, B. Castiglioni, F. Biscarini and F. Cecilian</i>	565
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53.23	Does Zn hydroxychloride supplementation improve intestinal integrity in dairy cows? <i>E.A. Horst, P.J. Gorden, L.H. Baumgard, M.V. Sanz-Fernandez and D. Brito De Araujo</i>	566
53.24	Plasma and milk metabolome in cows fed low-protein and balanced amino acids under heat stress <i>W. Xu, E. Jorge-Smeding, Y.H. Leung, A. Ruiz-Gonzalez, B. Aernouts, D.E. Rico and A. Kenez</i>	567

Session 54.

Challenges in poultry nutrition, health and welfare (2)

Room: Piquete

Chair: Stadnicka / Daş

Session type: Working group session

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14:00	Early life nutritional interventions in broilers as strategies to optimize performance and health <i>N. Everaert</i>	567
14:30	Applied microbiology in poultry industry: from nutrition to the gut microbiota <i>N.M. Carvalho, D.L. Oliveira, C.M. Costa, M.E. Pintado and A.R. Madureira</i>	568
14:45	Effect of sex on the performance and welfare indicators of broilers treated with vitamin D3 sources <i>A.C. Ogbonna, M. Mabelebele, L. Asher and A.S. Chaudhry</i>	568
15:00	Searching for the optimal synbiotic to modulate chicken development <i>N. Akhavan, K. Stadnicka, G. Gardiner, P. Lawlor, K.J. Guinan, A. Walsh, J.T. O'Sullivan and K. Hryniewicz</i>	569
15:15	Effects of feeding strategies on faecal microbiome and endotoxin excretion in broiler chickens <i>F. Marcato, D. Schokker, V. Perricone, S.K. Kar, J.M.J. Rebel and I.C. De Jong</i>	569
15:30	Summary by the chairs of the posters in sessions 43 and 54 <i>G. Das and K. Stadnicka</i>	570
15:45	Coffee break	
16:15	Use of winter gardens with and without an automatic enrichment device by laying hens <i>A. Riedel, L. Rieke, N. Kemper and B. Spindler</i>	570
16:30	Effects of dietary supplement with <i>Urtica urens</i> on performances and serum cholesterol of broilers <i>V. Pinheiro, J. Teixeira, P. Nunes, D. Outor-Monteiro and J. Mourão</i>	571
16:45	The effect of <i>Urtica urens</i> in the diet of broilers with different starting live weights <i>P. Nunes, D. Outor-Monteiro, J. Teixeira, J. Mourão and V. Pinheiro</i>	571
17:00	Identification of transcription factor co-operations underlying feather pecking in laying hens <i>S. Hosseini, M. Gültas, C. Falker-Gieske, B. Brenig, J. Bennewitz, J. Tetens and A.R. Sharifi</i>	572
17:15	Effects of dietary tall oil fatty acids on broiler performance and intestinal immunology <i>H. Kettunen, Z. Hayat, S. Hasan, J. Vuorenmaa and M.Z.U. Khan</i>	572
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54.12	Assessment of performance and plumage condition of laying hens in a mobile house <i>L. Rieke, L. Raederscheidt, F. Kaufmann and N. Kemper</i>	573
54.13	The effect of untrimmed beaks on plumage condition and mortality in turkey hens <i>M. Kramer, K. Skiba, P. Niewind, C. Adler, N. Kemper and B. Spindler</i>	573
54.14	Beaks trimmed or intact – how do turkey hens react to novel stimuli in a farm-related setting? <i>K. Skiba, M. Kramer, P. Niewind, J. Stracke, W. Büscher, N. Kemper and B. Spindler</i>	574

54.15	MicroRNA expression in immune-related tissues after in ovo stimulation with bioactive substances <i>A. Dunislawski, E. Pietrzak, R. Wishna Kadawarage and M. Siwek</i>	574
54.16	Effect of group size on dust bathing and reactivity of laying hens in a cage-free system <i>C. Ciarelli, G. Pillan, G. Xiccato, V. Ferrante, F. Bordignon, M. Birolo, F. Pirrone and A. Trocino</i>	575
54.17	Effects of in ovo synbiotic and choline administration on transcriptomes of chicken tissues <i>E. Grochowska, Z. Cai, K. Stadnicka and M. Bednarczyk</i>	575
54.18	The behaviour of turkey hens during an aggressive pecking attack: a pilot study <i>N. Volkmann, M. Canci, N. Kemper and B. Spindler</i>	576
54.19	Effect of water-soluble acidifier products on broiler crop fermentation and bacterial populations <i>P.T. Ward, S. Vartiainen, J. Apajalahti, R.A. Timmons, C.A. Moran and I. Nikodinoska</i>	576
54.20	Metabolic footprints of probiotic function in the chicken intestine <i>S. Zuo, E. Pietrzak, W. Studziński, G. Gardiner, P. Lawlor, P. Kosobucki and K. Stadnicka</i>	577
54.21	Use of probiotic to control <i>Campylobacter</i> in broilers <i>R.J.B. Bessa, E. Batista, F. Moreira, N. Santos-Ferreira, P. Teixeira and M.J. Fraqueza</i>	577
54.22	Light intensity and colour of LED lamps on performance and carcass characteristics of broilers <i>S. Silva, A. Tavares, E. Andrade, V. Pinheiro and J. Mourão</i>	578
54.23	Effects of probiotic dietary supplementation on broiler performance in normal and low protein diets <i>V. Dots, S. Savvidou, I.A. Giantsis, A. Athanasiou, M. Müller and G.K. Symeon</i>	578
54.24	Tight junction protein expression in response to seaweed supplementation in two laying hen strains <i>L.A. MacLaren, J. Wang, S. Borzouie and B.M. Rathgeber</i>	579
54.25	Effect of botanical compounds fed to breeders on laying and chicks' performances <i>C. Carlu, T. Chabrilat, C. Alleno, C. Manceaux, R. Bouvet and S. Kerros</i>	579
54.26	Productive characterization of the Portuguese autochthonous 'Branca' chicken breed <i>M. Meira, I.M. Afonso, J.C. Lopes, V. Ribeiro, R. Dantas, J.V. Leite and N.V. Brito</i>	580
54.27	Influence of mixing and storage on the quality of components in the laying hen feed mix <i>M. Grubor, S. Zjalic, A. Matin and T. Kricka</i>	580
54.28	Growing performance of the Portuguese autochthon 'Branca' chicken breed <i>C.M. Maia, J.L. Cerqueira, J.P. Araújo, F.M. Fonseca, F.J. Mata and M.L. Soares</i>	581
54.29	Physical, chemical and sensory analysis of brown-shelled vs white shelled eggs <i>P. Sousa, C. Martins, M. Mourato, L. Louro, S. Ferreira-Dias and M. Lordelo</i>	581
54.30	Effect of <i>Urtica urens</i> in broiler feed on the development of the digestive tract, serum cholesterol <i>J. Teixeira, V. Pinheiro, P. Nunes, D. Outor-Monteiro and J. Mourão</i>	582
54.31	Supplementing layers with <i>Lactobacillus rhamnosus</i> influences feather damage and the immune system <i>C. Mindus, N. Van Staaveren, D. Fuchs, S. Geisler, J. Gostner, J. Kjaer, W. Kunze, A.K. Shoveller, P. Forsythe and A. Harlander</i>	582

Session 55.

Innovation in equine production

Room: Ribeira

Chair: Tapprest / de Palo / Auclair-Ronzaud / Vial

Session type: Theme session

Theatre Session 55	Book of Abstracts page
14:00 Appropriate drone flight altitude for horse behavioural observation <i>T. Saitoh and M. Kobayashi</i>	583

14:15	Biothermo ID microchips for temperature e-monitoring in horses <i>C.B.L. Scicluna</i>	583
14:30	Digitalization and animal welfare in horse husbandry <i>M. Pfeiffer and L.T. Speidel</i>	584
14:45	Donkey comfort at work <i>D. Fouvez, C. Bonnin, C. Briant and S. Biau</i>	584
15:00	Combining novel motion technology and genotype data in an Italian horse native breed <i>V. Asti, A. Sabbioni, S. Menčík, A. Piplica and M. Ablondi</i>	585
15:15	Growth characteristics of warmblood horses as predicted by non-linear functions <i>M.J. Fradinho, D. Assunção, A.L. Costa, C. Maerten, V. Gonçalves, A. Teixeira, M. Bliebernicht and A. Vicente</i>	585
15:30	Self-organized equestrian practitioners: key characteristics and needs <i>C. Eslan, C. Vial, S. Costa and H. Pham</i>	586

15:45 Coffee break

16:15	Studies on the training and marketing of Haflinger horses in South Tyrol <i>S. Hornauer, L. Stammer, T. Zanon, M. Gauly and D. Winter</i>	586
16:30	Which farms raise small equine herds in France? <i>G. Bigot and J. Veslot</i>	587
16:45	The horse meat market in France: towards a typology of consumers and non-consumers <i>C. Vial, M. Sebbane and A. Lamy</i>	587
17:00	Equid milk: an overview of the French sector <i>D. Fouvez, C. Bonnin, C. Burdin and J. Auclair-Ronzaud</i>	588
17:15	Mare milk composition and antioxidant capacity: effect of farm and lactation stage <i>A. Blanco-Doval, L. Moran, L.J.R. Barron and N. Aldai</i>	588
17:30	Rennet coagulation aptitude of donkey milk as affected by ultrafiltration <i>G. Natrella, A. Maggolino, P. De Palo and M. Faccia</i>	589

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55.14	Digitalization in equine management <i>L.T. Speidel</i>	589
55.15	Changes in lactate levels and blood cell composition due to exercise in Hokkaido native horses <i>T.J. Acosta, Y. Okamoto and T. Saitoh</i>	590
55.16	Portuguese Sorraia horse dynamics study with innovative technology: stance and swing of the walk <i>R.A.S. Faria, J.A.I.I.V. Silva, L.Y. Rodrigues, G. Alberto, J. Lopes, C. Zucatelle and A.P.A. Vicente</i>	590
55.17	Portuguese Sorraia horse dynamics study with innovative technology: three natural gaits and strides <i>R.A.S. Faria, N. Marques, P. Ferreira, C.V.R. Sousa, R. Correia, J.A.I.I.V. Silva and A.P.A. Vicente</i>	591
55.18	Equine oral Gram-negative multidrug resistant microbiota <i>J. Pimenta, A. Pinho, M.J. Saavedra and M. Cotovio</i>	591
55.19	Effect of different cryopreservation protocols on donkey's sperm viability/motility after thawing <i>M.H. Silva, L. Valadão, M. Anet, M.A.D. Saleh and F. Moreira Da Silva</i>	592
55.20	Health parameters of horses affected by headshaking syndrome <i>L.M. Stange, J. Krieter and I. Czycholl</i>	592

55.21	Volatile profile of dry-fermented foal sausages formulated with healthy oil emulsion hydrogels <i>A. Cittadini, M.V. Sarriés, P.E. Munekata, M. Pateiro, R. Domínguez and J.M. Lorenzo</i>	593
55.22	Study of the milk composition of mares located in Goiás southwest, Brazil <i>A.M. Geraldo, R.M. Ribeiro, D.S.F. Ribeiro, H. Wajnsztein, A.R. Amorim and P.D.S.R.G. Wajnsztein</i>	593
55.23	Use of extruded linseed to improve the nutritional quality of Sarda Donkeys milk <i>F. Correddu, S. Carta, A. Mazza, A. Nudda and S.P.G. Rassu</i>	594

Scientific programme

Thursday 8 September

Session 56.

Animal breeding

Room: Arquivo

Chair: Jahnel / Miglior

Session type: Free communications / Bottom-up session

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8:45 Calibrating simulations of dominance variation in animal breeding: case study in layer chickens <i>I. Pocrnic, C. Gaynor, J. Bancic, A. Wolc, D. Lubritz and G. Gorjanc</i>	595
9:00 Simulation study on the optimization of pasture-based German Merino sheep breeding programs <i>R. Martin, T. Pook, M. Schmid and J. Bennewitz</i>	595
9:15 Effect of β -casein variants on cheese yield and quality measured in commercial cheese-making trials <i>E. Boschi, S. Faggion, P. Carnier and V. Bonfatti</i>	596
9:30 Relationship between body condition score and backfat thickness in dairy cattle <i>C. Schmidtman, C. Harms, I. Blaj, A. Seidel and G. Thaller</i>	596
9:45 Holstein effective population size reducing <i>J.B.C.H.M. Van Kaam, B. Lukić, M. Marusi and M. Cassandro</i>	597
10:00 Estimating additive genetic variance over time in chicken breeding programmes <i>B. Sosa-Madrid, G. Maniatis, S. Avendano and A. Kranis</i>	597
10:15 Coffee break	
10:45 Purebred breeding goals optimized for crossbreeding improves crossbred performance <i>J.R. Thomasen, H.M. Nielsen, M. Kargo and M. Slagboom</i>	598
11:00 Trade-off between animal resilience and energy use in grazing cows of two Holstein genetic strains <i>E. Jorge-Smeding, A.I. Trujillo, A. Kenez, D. Talmón, A. Mendoza, G. Cantalapiedra-Hijar, M. Carriquiry and A.L. Astessiano</i>	598
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56.11 Dominant expression of beta-casein variant A1 in milk of Holstein-Friesian cows <i>S. Kaminski, A. Cieslinska, K. Olenski, T. Zabolewicz and A. Babuchowski</i>	599
56.12 Relationships between lameness, conformation traits and claw disorders in Czech Holstein cows <i>L. Zavadilová, E. Kašná, J. Vařeka, J. Kučera, S. Šlosárková and P. Fleischer</i>	600
56.13 Culling reasons in Czech dairy cattle <i>E. Kašná, L. Zavadilová, J. Vařeka and Z. Krupová</i>	600
56.14 Breed-specific heterosis and recombination effects for weaning weight in composite beef cattle <i>L.T. Gama, F.S. Baldi, R. Espigolan, J.P. Eler, E.C.M. Oliveira, R. Nuñez-Dominguez and J.B. Ferraz</i>	601

56.15	Genetic parameters for wool traits in Portuguese White Merino sheep <i>R. Cordeiro Da Silva, T. Perloiro, A. Carrasco and N. Carolino</i>	601
56.16	Genetic resources of Greek sheep breeds: insights into population structure and breeding strategies <i>S. Michailidou, E. Pavlou, M. Kyritsi and A. Argiriou</i>	602
56.17	Litter size variability in a divergent selected mice population for birth weight variability <i>L. El-Ouazizi El-Kahia, N. Formoso-Rafferty, I. Cervantes and J.P. Gutiérrez</i>	602
56.18	Estimation of the genetic (co)variance components of reproductive efficiency in Retinta beef cattle <i>R.M. Morales, J.M. Jiménez, A. Molina, S. Demyda-Peyrás and A. Menéndez-Buxadera</i>	603
56.19	Software for the automated correction of pedigree data <i>N. Burren and A. Burren</i>	603
56.20	Genetic analysis of productive life in the Florida goat breed using a Cox proportional hazards model <i>C. Ziadi, J.P. Sánchez, R. Morales, E. Muñoz-Mejías, M. Sánchez, M.D. López and A. Molina</i>	604
56.21	Evaluation of stature in Polish dairy cattle using a single-step method <i>M. Pszczola, K. Bączkiewicz, W. Jagusiak, M. Skarwecka, T. Suchocki, M. Szalanski, J. Szyda, A. Zarnecki, K. Zukowski and S. Mucha</i>	604
56.22	Population structure of Istrian and Croatian Coloured goat <i>I. Držaić, V. Orehovački, L. Vostrý, I. Curik, N. Mikulec and V. Cubric Curik</i>	605
56.23	Inbreeding depression on reproductive traits in Mertolenga beef cattle <i>A. Vitorino, J. Pais, N. Carolino and Consórcio Bovmais</i>	605
56.24	Importance of valid and representative phenotypes in novel traits using single-step GBLUP <i>H. Schwarzenbacher, J. Himmelbauer and B. Fuerst-Waltl</i>	606
56.25	Significant contribution of parent-of-origin effects to genetic variation of milk production traits <i>R.E. Jahnel, I. Blunk and N. Reinsch</i>	606

Session 57. Livestock farming and value chain initiatives contributing to societal/ecological transition

Room: Infante

Chair: Thenard / da Silva

Session type: Theme session

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8:30 invited	Is sustainable transition compatible with value chains industrialization in developing countries? <i>G. Duteurtre</i>	607
9:00	Consumer's expectations about quality of livestock products: focus groups in 4 European countries <i>E. Sturaro, F. Bedoin, V. Bühl, A. Cartoni Mancinelli, C. Couzy, R. Eppenstein, S. McLaughlin and F. Pagliacci</i>	607
9:15	Antibiotic-free pig supply schemes in France: a lever for valorisation and progress <i>C. Roguet and H. Hemon</i>	608
9:30	Inclusion of citizens in the design of livestock farming: case of mid-mountain dairy system <i>P. Coeugnet, G. Vourc'h, J. Labatut and J. Duval</i>	608
9:45	Developing local protein resources in monogastric feeds to promote the agroecological transition in <i>C. Escande, M. Grillot and V. Thénard</i>	609

10:00	The mix of species within farms contributes to secure and regularise the supply of the sectors <i>S. Cournot, S. Mugnier, C. Husson and G. Bigot</i>	609
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10:15 Coffee break

10:45	Perceived resilience in Veneto beef farmers <i>G. Marchesini, I. Andrighetto and F. Accatino</i>	610
11:00	Valuation of local breeds: methodological questions following interviews with Pyrenees goat farmers <i>A. Lauvie, F. Thuault, M.O. Nozières-Petit, B. Dupuis and N. Couix</i>	610
11:15	Implementing GHG models as advisory tools for milk, beef, pig, sheep, poultry, and crop production <i>S. Samsonstuen, H. Bonesmo, B.A. Åby, E.G. Enger, E. Kjesbu, M. Bergford, R. Okstad, S. Skøien and T. Barman</i>	611
11:30	Improving demonstration activities to foster change towards sustainable organic livestock farming <i>D. Neumeister and C. Evrat Georgel</i>	611

Poster Session 57

Book of Abstracts page

57.11	The sustainability of buffalo livestock <i>A. Fierro, A. Forte, G. Di Vuolo, G. Cappelli, E. De Carlo, L.F. Zuin, M. Giampietro and D. Vecchio</i>	612
57.12	The keys to Reine Mathilde's success, a development program for the organic dairy sector <i>D. Neumeister and C. Evrat Georgel</i>	612
57.13	Perception of Brazilian agrarian sciences students on sustainability indicators for dairy farming <i>M.F. Silva, F.I. Bankuti and T.T.S. Siqueira</i>	613
57.14	How to better assess the carbon balance of pastoral and agropastoral systems in the Sahel region? <i>H.N. Rakotovao, P. Salgado, M.H. Assouma and A. Mottet</i>	613
57.15	Is it possible to improve farms' economic results with crop-livestock system integration? <i>F.F. Simili, G.G. Mendonça, A.H. Gameiro, J.G. De Oliveira, P.C. Domingues Dos Santos and D.F.L. Santos</i>	614
57.16	Importance in the development of short supply chains of local breeding and processing potential <i>P. Radomski and P. Moskała</i>	614

Session 58.

PLF for social, environmental and ethical impact

Room: Miragaia

Chair: Gautier / Morgan-Davies

Session type: Challenge session

Theatre Session 58

Book of Abstracts page

8:30	Is precision livestock farming a way to improve farmers' working conditions? <i>N. Hostiou and J. Fagon</i>	615
9:00	Digital sustainability in livestock farming: a digitization footprint <i>M. Sozzi, A. Pezzuolo and F. Marinello</i>	615
9:30	Economic value of the data-driven environment of precision livestock farming <i>M. Van Der Voort and H. Hogeveen</i>	616
10:00	Panel discussion – PLF for social, environmental and ethical impacts <i>J.M. Gautier and C. Morgan-Davies</i>	616

Session 59.

Flexitarianism, plant-based products, cultured meat: pros and cons of these new solutions

Room: D. Maria
Chair: Ellies-Oury / Chrik
Session type: Theme session

Theatre Session 59	Book of Abstracts page
8:30 Perception of cultured meat of Italian, Portuguese and Spanish speaking consumers <i>invited</i> J. Liu, J.M. Almeida, N. Rampado, B. Panea, É. Hocquette, M.P. Ellies-Oury, S. Chriki and J.F. Hocquette	617
8:45 Consumer perception of cultured meat in certain African countries <i>invited</i> M. Kombolo, S. Chriki, M.P. Ellies-Oury and J.-F. Hocquette	617
9:00 Nutrient composition of milk, dairy and plant-based alternatives and implications for consumer diets <i>invited</i> S. Stergiadis, A. Tarrado Ribes, R. Reynolds, K.E. Kliem and M.E. Clegg	618
9:30 Keep the herd, rear the future: prospects and challenges of hybrid, plant-based and cultured meat <i>invited</i> M. Banovic	618
9:45 High isoflavones exposure through soy-based food in France and their reduction by new food-processes <i>invited</i> S. Bensaada, G. Peruzzi, F. Chabrier, P. Ginisty, C. Ferrand, M. Vallat and C. Bennetau-Pelissero	619
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11:00 Alternative proteins: environmental impact of meat substitution from plants to cultured meat <i>invited</i> S. Smetana	620

Session 60.

LIFE Green Sheep project / Meta-analysis applied to animal science

Room: D. Luís
Chair: Dolle / Tzamaloukas
Session type: P/T

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8:30 Simplified LCA in sheep farming: comparison of carbon footprint estimates from different tools A.S. Atzori, O. Del Hierro, C. Dragomir, M. Decandia, M. Acciaro, C. Buckley, M. Habeanu, J. Herron, R. Ruiz, T.W.J. Keady and S. Throude	621
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10:45 A meta-analysis on the tenderising effect of ageing beef muscle 623
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60.8 Methane measurements in PAC do not result in elevated milk somatic cell counts in Norwegian goats 624
J.H. Jakobsen, K. Lunn, R.A. Inglingstad and T. Blichfeldt

60.9 Inclusion of sainfoin in lamb concentrate on blood metabolites and oxidation status 625
C. Baila, M. Joy, I. Casasús, M. Blanco, J.R. Bertolin and S. Lobón

60.10 The effect of chromium propionate on growth performance and meat quality of lambs 625
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C. Oliveira, M. Pimpão, J. Santos-Silva, O. Moreira and J.M. Almeida

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Safety and sustainability in the insect chain

Room: Porto

Chair: Gasco / Sandrock

Session type: Theme session

Theatre Session 61

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N.P. Meijer, H.J. Van Der Fels-Klerx and J.J.A. Van Loon

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E. Van Engelen, D. Van Der Merwe, W. Dekkers, P. Vellema and S. Luttikholt

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D. Beesigamukama, S. Subramanian and C.M. Tanga

9:30 Life cycle assessment of *Hermetia illucens* meal inclusion in diets for trout reared in aquaponics 628
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C.L. Coudron and D. Deruytter

10:00 Sustainable perspectives of insect production 629
S. Smetana, A. Bhatia, N. Mouhrim, A. Tonda, A. Mathys, A. Green, D. Peguero and V. Heinz

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Session 62.

Early career competition on measuring animal behaviour

Room: Auditório

Chair: Almeida / Maigrot

Session type: Young EAAP session

Theatre Session 62

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8:30	Pain expression as an indicator of orthopaedic disease in dairy cattle <i>M. Söderlind, K. Ask, A. Granlund, A. Leclercq, E. Hernlund, P. Haubro Andersen and M. Rhodin</i>	632
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Role of antioxidants in the physiology of several tissues in livestock

Room: S. João

Chair: Boutinaud / Louveau

Session type: Theme session

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10:00	A comprehensive study of sow colostrum immune, antioxidant parameters and litter size correlations <i>P. Engler, D. Bussi�eres, F. Guay, A. Demortreux and M.E.A. Benarbia</i>	637

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Session 64.**Feeding sows from weaning to farrowing**

Room: Piquete

Chair: Trevisi / Bee

Session type: Theme session

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- 9:00 Targeted nutrition in gestating sows: opportunities to enhance sow performance and piglet health 638
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- 9:45 A long time interval since the last meal impairs farrowing progress in sows 639
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- 10:00 Poster presentation 640
P. Trevisi and G. Bee
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- 11:00 The effects of feeding sows encapsulated SCFA and MCFA on IgG quality and subsequent piglet growth 641
M.G. Marchesi and L. Jordaan
- 11:15 Use of additives in the feeding of hyperprolific sows in the peripartum period – new approach 641
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Session 65.

Feeding sows from weaning to farrowing

Room: Arquivo

Chair: Trevisi / Bee

Session type: Theme session

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14:45 Comparative genome-wide study on autochthonous Nero Siciliano pig breed <i>G. Chessari, S. Mastrangelo, S. Tumino, G. Senczuk, S. Chessa, B. Castiglioni, S. Bordonaro, D. Marletta and A. Criscione</i>	648
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15:15 Phenotypic and genomic investigations on carcass and meat quality of a German local pig breed <i>A. Olschewsky, A. Kleinlein, D. Mörlein and D. Hinrichs</i>	649
15:30 Productive traits and boar taint of early and late immunocastrated pigs of three Duroc crossbreeds <i>M. Font-I-Furnols, A. Brun, J. Soler, N. Panella-Riera, J. Reixach, N. Gomez, G. Mas and M. Gispert</i>	650
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16:15 Genetic correlations between plasma metabolite levels and complete blood counts in healthy pigs <i>E. Dervishi, X. Bai, M.K. Dyck, J.C.S. Harding, F. Fortin, P.G. PigGen Canada, J. Cheng, J.C.M. Dekkers and G.S. Plastow</i>	650
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65.12	Use of olive pomace in the Bísaro breed feeding – effect on processed meat products sensory quality <i>S.S.Q. Rodrigues, L. Vasconcelos, A. Leite, I. Ferreira, E. Pereira and A. Teixeira</i>	652
65.13	Real-time ultrasonography: assessment of the subcutaneous fat layers in growing Bísaro pigs <i>S. Botelho-Fontela, G. Matos, A. Esteves, G. Paixão, R. Payan-Carreira, A. Teixeira and S.R. Silva</i>	653
65.14	Meat quality of Bísaro breed and terminal cross entire male pigs <i>R.P. Pinto, F. Mata, J.P. Araújo, J.L. Cerqueira and M. Vaz-Velho</i>	653
65.15	Immunocastration to slaughter: effect on testis and boar taint compounds in adult male Bísaro pigs <i>S. Botelho-Fontela, R. Pereira Pinto, G. Paixão, M. Pires, M. Vaz Velho, R. Payan-Carreira and A. Esteves</i>	654
65.16	Low levels of androstenone and Skatole found in Bísaro Pigs reared in alternative systems <i>G. Paixão, S. Botelho-Fontela, R. Pinto, M. Pires, M. Velho, R. Payan-Carreira and A. Esteves</i>	654
65.17	Modelling the growth in female and male piglets of Sarda breed <i>A. Cesarani, M.R. Mellino, A. Fenu, N.P.P. Macciotta and G. Battacone</i>	655
65.18	Molecular approach to the genetic improvement of quality traits in dry-cured Iberian pork loin <i>P. Palma-Granados, M. Muñoz, M. Fernández-Barroso, C. Caraballo and J. García-Casco</i>	655
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65.21	Association of ghrelin gene polymorphisms with slaughter traits in pig <i>M. Tyra, K. Ropka-Molik, K. Piórkowska, M. Szyndler-Nędza, M. Małopolska, M. Babicz, A. Mucha, G. Żak and R. Eckert</i>	657
65.22	Skatole and androstenone contents in backfat from different anatomical locations <i>N. Panella-Riera, R. Martín-Bernal, M. Egea, I. Peñaranda, M.B. Linares, M.B. Lopez, M.D. Garrido and M. Font-I-Furnols</i>	657

Session 66. Digitalisation, Data integration, Detection and Decision support in PLF applications – collaboration with D4Dairy

Room: Auditório

Chair: Egger-Danner / Adriaens

Session type: Project session

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14:00	D4Dairy – from data integration to decision support – lessons learned <i>C. Egger-Danner, K. Linke, B. Fuerst-Waltl, P. Klimek, O. Saukh, T. Wittek and D4dairy-Consortium</i>	658
14:30	Data integration in D4Dairy and new opportunities under the Data-Governance-Act and the Data Act <i>P. Majcen</i>	658
14:45	Auxiliary traits for mastitis in Fleckvieh dairy cows from sensor based measurements <i>K. Schodl, B. Fuerst-Waltl, H. Schwarzenbacher, F. Steininger, C. Obmann, D4dairy-Consortium and C. Egger-Danner</i>	659
15:00	An integrative data-methodological approach to disease prevention in dairy cattle <i>C. Matzhold, E. Dervic, J. Lasser, C. Egger-Danner, F. Steininger and P. Klimek</i>	659
15:15	Development of a decision support tool for targeted dry-off treatment of dairy-cows <i>W. Obritzhauser, C.L. Firth, K. Fuchs and C. Egger-Danner</i>	660
15:30	Exploring severity of clinical mastitis in four dimensions <i>Y. Song, M. Gote, L. D'anver, D. Meuwissen, I. Van Den Brulle, S. Piepers, S. De Vlieghe, I. Adriaens and B. Aernouts</i>	660

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16:15	Genetic parameters for mid-infrared-spectroscopy predicted mastitis and related phenotypes <i>L. Rienesl, B. Fuerst-Waltl, A. Koeck, C. Egger-Danner, N. Gengler, C. Grelet and J. Soelkner</i>	661
16:30	Ketosis and its auxiliary traits <i>B. Fuerst-Waltl, H. Schwarzenbacher, K. Schodl, A. Koeck, M. Suntinger, F. Steininger and C. Egger-Danner</i>	661
16:45	On the image phenotyping for identification and development of dairy calves and heifers <i>C.D. Wallace, M.E. Wirch, R.R. Vicentini, U. Chauhan, R.V. Ventura and Y.R. Montanholi</i>	662
17:00	Concentrate use efficiency in dairy cows: an investigation based on on-farm data <i>S.-J. Burn, B. Fuerst-Waltl, F. Steininger and W. Zollitsch</i>	662
17:15	Milk progesterone sample rate and reactivity of farmers impacts reliability of insemination window <i>D. Meuwissen, K. Brosens, B. Aernouts and I. Adriaens</i>	663

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66.12	Development of a monitoring tool for metabolic imbalance issues based on milk recording data <i>S. Franceschini, C. Grelet, J. Leblois, N. Gengler and H. Soyeurt</i>	663
66.13	Use of automatic milking systems data for early mastitis detection in Italian Holstein dairy cows <i>R. Moretti, E. Ponzo, M. Beretta, S. Chessa and P. Sacchi</i>	664
66.14	Compatibility of smart ear tags with twin pin fixing system in cows <i>N. Gobbo Oliveira Erünlü, J. Bérard and O. Wellnitz</i>	664
66.15	Predicting pregnancy status of dairy cows with mid-infrared spectra: a tricky and limited approach <i>L. Rienesl, P. Pfeiffer, A. Koeck, C. Egger-Danner, N. Gengler, C. Grelet, L. Dale, A. Werner, F.-J. Auer, J. Leblois and J. Sölkner</i>	665

Session 67.

Dairy management to enhance farm sustainability

Room: D. Maria

Chair: Foskolos / Righi

Session type: Theme session

Theatre Session 67

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14:00	Rethinking Ivanov's legacy: artificial insemination as a technology <i>K. Rossiyanov</i>	665
14:30	Asocial Darwinism or Darwinian socialism: artificial reproduction and socio-biological boundaries <i>A.B. Kojevnikov</i>	666
15:00	Kaempferol modulates sperm cryocapacitation through changes in the levels of reactive oxygen species <i>E. Tvrdá, Š. Baňas, F. Benko, M. Ďuračka, M. Lenický and N. Lukáč</i>	666
15:15	Cryoprotective ability of epicatechin on protein profile of cryopreserved bovine spermatozoa <i>F. Benko, Š. Baňas, M. Ďuračka, N. Lukáč and E. Tvrdá</i>	667
15:30	Novel nutritional approaches to enhance sustainability and productivity in cattle farming <i>S. Grossi, M. Dell'anno, L. Rossi and C.A. Sgoifo Rossi</i>	667

15:45 Coffee break

16:15	Dietary energy source on Italian Holstein heifers feed efficiency <i>V. Fumo, F. Omodei Zorini, E. Alberti, M. Dell'anno, E. Zucca, G. Savoini and G. Invernizzi</i>	668
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16:30	Fat supplement for dairy cow diets during early lactation – meta analysis <i>S. Lashkari, M.R. Weisbjerg, L. Foldager and C.F. Børsting</i>	668
16:45	Effect of medium-chain fatty acids on productive and blood parameters in periparturient dairy cows <i>F. Gadeyne, M. Bustos, J. Gieling-Van Awezaath, L. Kroon and A. Koopmans</i>	669
17:00	Implementing selection index for nitrogen efficiency in Italian Holstein population <i>A. Fabris, G. Visentin, R. Finocchiaro, M. Marusi, F. Galluzzo, L. Mammi and M. Cassandro</i>	669
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17:30	Leukocytes and microRNA in colostrum following heat-treatment or freezing <i>T.L. Chandler, A. Newman, A.S. Sipka and S. Mann</i>	670
17:45	Performance of first parity Holstein, Danish Red and their crosses in an experimental setting <i>J.B. Clasen, H.M. Nielsen, L. Hein, K. Johansen, M. Vestergaard and M. Kargo</i>	671

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67.14	Challenges of the breeding systems of indigenous bovine populations in Algeria, Greece and Tunisia <i>D. Tsiokos, S. Boudalia, S. Ben Said, A. Mohamed-Brahmi, S. Smeti, A. Bousbia, Y. Gueroui, M. Anastasiadou and G.K. Symeon</i>	672

Session 68. The multiple facets of adaptive capacities in sheep and goat farms: how physiological, genetics and management strategies can be used and combined to improve resilience?

Room: D. Luís

Chair: Puillet / Cadavez

Session type: Project session

Theatre Session 68

Book of Abstracts page

14:00	The adaptive capacities of small ruminants as a lever to design agroecological farming systems <i>F. Douhard, D. Hazard, R. Rupp, E. González-García, F. Stark and A. Lurette</i>	672
14:30	A model of energy allocation to predict adaptive capacities in meat sheep <i>F. Douhard, G. Dubreuil, S. Lobón, M. Joy, L. Puillet, N.C. Friggens and A. Lurette</i>	673
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15:15	Behavioural adaptation to rangeland and performances of lambs differing in experience and genetics <i>C. Ginane, N. Aigueperse, S. Parisot, C. Durand, A. Guittard, F. Tortereau, X. Boivin and M.M. Mialon</i>	674
15:30	Adaptation of Barki desert sheep to different feed shortage periods <i>F. Abou-Ammou, M. El-Shafie, A. Aboul-Naga, E. El-Wakel, A. Saber, T. Abdelsabour and T. Abdelkhalek</i>	675

15:45 Coffee break

16:15	Short-term adaptive capacity of dairy goats to a two-days nutritional challenge <i>M. Gindri, N. Friggens and L. Puillet</i>	675
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16:30	Performance of Scottish Blackface lambs post-weaning when offered a forage based diet <i>M.A. Dolan, T.M. Boland, N.A. Claffey and F.P. Campion</i>	676
17:00	Contribution of grazing areas to small ruminant production systems in the Mediterranean countries <i>S. Lobón, A. Aboul Naga, A. Mohamed-Brahmi, A. Tenza-Peral, E. Salah, M. Ameer, M. Joy, M. Nasraoui, T. Abdelsabour and I. Casasús</i>	677
17:15	Modelling as a tool to explore adaptation of Mediterranean sheep farming systems to climate change <i>A. Lurette, F. Douhard, L. Puillet, A. Madrid, M. Curtil and F. Stark</i>	677
17:30	Farmer views of best climate change adaptation strategies for sheep farming in the Mediterranean <i>D. Martín-Collado, S. Lobón, M. Joy, I. Casasús, A. Mohamed-Brahmi, Y. Yagoubi, F. Stark, A. Laurette, A. Abuoul Naga, E. Salah and A. Tenza-Peral</i>	678
17:45	Increasing resilience of small ruminants farming systems: 3 management strategies across countries <i>J. Quénon and V. Thénard</i>	678

Poster Session 68	Book of Abstracts page
68.14 Citrullination gene related detections by runs of homozygosity and resilience in sheep <i>L. Menegatto, L. Freitas, K. Costa, N. Stafuzza and C. Paz</i>	679
68.15 Adaptive capacity of Mediterranean sheep over morphological traits at different physiological status <i>N. Atti, S. Lobón, A. Abounagua, D. Hazard, Y. Yagoubi, M. Joy, E. Salah, F. Douhard, S. Smeti and E. Gonzalez-Garcia</i>	679
68.16 Genetic and nongenetic variation of fertility parameters in Comisana and Massese sheep <i>V. Floridia, G. Buonaiuto, L.M.E. Mammi, S. Grande, S. Biffani and G. Visentin</i>	680
68.17 Differential runs of homozygosity between resistant and resilient sheep in tropical regions <i>L. Menegatto, L. Freitas, K. Costa, N. Stafuzza and C. Paz</i>	680
68.18 Genome-wide association study for gastrointestinal nematode parasite resistance in Santa Inês sheep <i>M.B. Mito, N.B. Stafuzza, A.C. Freitas, R.L.D. Costa and C.C.P. Paz</i>	681
68.19 Resilience to underfeeding in dairy ewes diverging in feed efficiency: rumen fermentation <i>G. Hervás, P.G. Toral, A. Della Badia, A.G. Mendoza and P. Frutos</i>	681

Session 69. Increasing animal resilience via nutrition (organized in collaboration with FEFANA)

Room: Arrábida

Chair: Pinotti / Goselink

Session type: Discovery session

Theatre Session 69	Book of Abstracts page
14:00 invited Chicken immune cell assay to model adaptive immune responses and its application in feed science <i>S. Kreuzer-Redmer, F. Larsberg, D. Hesse, G. Loh and G.A. Brockmann</i>	682
14:30 Dietary strategies to support disease resistance and resilience in swine and poultry <i>C.H.M. Smits</i>	682
15:00 invited Nutrition and intestinal health in pigs – options and limits in practice <i>J. Zentek</i>	683
15:30 invited Challenge and opportunities of the low protein diet for weaning pigs <i>P. Trevisi</i>	683

16:00 Coffee break

16:30	New dietary and management strategies that modulate the gut microbiota to optimize gut health	684
invited	<i>N. Everaert</i>	
17:00	Nutritional and health benefits of essential oils in dairy cows	684
invited	<i>L. Abdennebi-Najar, D.M. Pereira, S. Andrés, R.B. Pereira, R. Nehme, E. Vambergue, C. Gini, S. Even, M. Sabbah, H. Falleh, I. Hamrouni, R. Ksouri, M. Benjemaa, F.Z. Rahali, F.J. Giráldez, S. López, M.J. Ranilla, P. Cremonesi, S. Bouhallab and F. Cecilian</i>	

Session 70.

Genome informed breeding

Room: Porto

Chair: Sell-Kubiak / Pocrnic

Session type: Free communications / Bottom-up session

Theatre Session 70		Book of Abstracts page
14:00	Genetic characterization of the indigenous Sanga cattle of Namibia <i>D.A. Januarie, E.D. Cason and F.W.C. Naser</i>	685
14:15	Using SEM models to increase of accuracy of QTL estimation in cattle <i>M. Jakimowicz, T. Suchocki, A. Zarnecki, M. Skarwecka and J. Szyda</i>	685
14:30	PyMSQ: an efficient package for estimating Mendelian sampling quantities <i>A.A. Musa and N. Reinsch</i>	686
14:45	Genomic and phenotypic differentiation of the Tamarona line of the Spanish Retinta beef cattle breed <i>R.M. Morales, G. Anaya, S. Moreno-Jiménez, J.M. Jiménez, S. Demyda-Peyrás and A. Molina</i>	686
15:00	GWAS analyses confirms association of homogeneity with robustness <i>N. Formoso-Rafferty, J.P. Gutiérrez, I. Álvarez, F. Goyache and I. Cervantes</i>	687
15:15	Blood chimerism in bovine twins is common and affects the accuracy of genotyping <i>D. Lindtke, F. Seefried, C. Drögemüller and M. Neuditschko</i>	687
15:30	Genomic characterization of the Portuguese Mertolenga cattle <i>D. Gaspar, R. Gonzalez-Prendes, A. Usié, S. Guimarães, A.E. Pires, C. Bruno De Sousa, M. Makgahlela, J. Kantanen, R. Kugonza, N. Ghanem, R. Crooijmans and C. Ginja</i>	688
15:45	Coffee break	
16:15	Metabarcoding approaches to study microbial communities dynamics in milk and dairy products <i>L. Giagnoni, C. Spanu, A. Tondello, D. Saptarathi, A. Cecchinato, P. Stevanato, M. De Noni and A. Squartini</i>	688
16:30	Genetic heterogeneity of the POLLED locus in South African Bonsmara beef cattle <i>R. Grobler, C. Visser and E. Van Marle-Köster</i>	689
16:45	The genetic heritage of Colombian Creole sheep breeds <i>H.A. Revelo, V. Landi, D. Lopez-Alvarez, Y. Palacios and L.A. Álvarez</i>	689
Poster Session 70		Book of Abstracts page
70.11	Genetic characterization of Dexter cattle in Southern African <i>E.D. Cason, J.B. Van Wyk, M.D. Fair, P.D. Vermeulen and F.W.C. Naser</i>	690
70.12	Identifying selection signatures based in Fst analysis for birth weight variability in mice <i>C. Ojeda-Marín, N. Formoso-Rafferty, I. Cervantes and J.P. Gutiérrez</i>	690
70.13	Genome-wide association study revealed candidate genes for colour differentiation in Mangalitsa pigs <i>L. Jung, S. Addo and D. Hinrichs</i>	691

70.14	Genomic prediction in the Lesvos dairy sheep <i>A. Kominakis, I. Mastranestasis, V. Karagianni, M. Stavraki and A.L. Hager-Theodorides</i>	691
70.15	Genotyping of PRNP gene using 7 codons in 17 goat populations <i>A. Canales, S. Nicar, J.A. Bouzada, J. Jordana, M. Amills, M.R. Fresno, A. Pons, M. Macri, J.V. Delgado and M.A. Martínez</i>	692
70.16	Genome-wide association study for mastitis resistance in Czech Holstein Cattle <i>K. Forejt, H. Vostra-Vydrova, N. Moravcikova, R. Kasarda, L. Zavadilova and L. Vostry</i>	692
70.17	Modification of imputation scheme for Polish Holstein-Friesian dairy cattle genomic evaluation <i>K. Żukowski and T. Suchocki</i>	693
70.18	GENORIP project: a genomic approach to manage genomic variability in cattle dairy farms <i>C. Punturiero, F. Bernini, R. Milanesi, A. Bagnato and M.G. Strillacci</i>	693
70.19	Identification of SNPs affecting milk yield of Polish Holstein Friesian dairy cows <i>M. Kolenda, B. Sitkowska, D. Piwczyński, H. Önder, B. Kurnaz, U. Şen and A. Dunisławska</i>	694
70.20	Single step genomic prediction of milk yield in Polish Holstein Friesian dairy cattle <i>H. Önder, B. Sitkowska, M. Kolenda, D. Piwczyński, B. Kurnaz and U. Şen</i>	694
70.21	Genome-wide association study for daily milk yield in Istrian dairy sheep <i>M. Špehar, J. Ramljak and A. Kasap</i>	695
70.22	GWAS for clinical mastitis in Polish HF cows <i>P. Topolski, T. Suchocki and A. Żarnecki</i>	695
70.23	SNP-based genetic diversity in Pag sheep – preliminary results <i>J. Ramljak, M. Špehar, A. Kasap, B. Mioč, I. Širić, A. Ivanković, D. Barać, Z. Barać and V. Držaić</i>	696
70.24	Genetic characterization of Churra do Campo Portuguese sheep breed using a high-density SNP chip <i>M.F. Santos-Silva, N. Carolino, C. Rebelo De Andrade, C. Oliveira E Sousa, P. Jacob, I. Carolino and V. Landi</i>	696
70.25	Analysis of the CNV inheritance in swine genome based on combined Illumina and Nanopore data <i>M. Frąszczak, M. Mielczarek, T. Strzała, B. Nowak and J. Szyda</i>	697
70.26	Characterization of buffalo milk microbiota through NGS techniques <i>C. Ferrari, F. Luziatelli, L. Basiricò, M. Ruzzi and U. Bernabucci</i>	697

Session 71. Integrative physiology to understand whole-tissue or whole-body functions and their application to animal production, health or disease

Room: S. João
Chair: Bonnet / Keogh
Session type: Theme session

Theatre Session 71		Book of Abstracts page
14:00	RNA-Seq reveals candidate microRNA (miRNA) linked to Cytochrome P450 pathway in dairy cows <i>A. Veshkini, H.M. Hammon, H. Sadri, B. Lazzari, V. Vendramin, H. Sauerwein and F. Cecilian</i>	698
14:30	Plasma and milk metabolomics in primiparous and multiparous Holstein cows under heat stress <i>E. Jorge-Smeding, D. Rico, A. Ruíz-González, X. Wei, Y.H. Leung and A. Kenez</i>	698
14:45	Association of peripheral blood transcriptome and haemochromocytometric values in piglets <i>D. Luise, F. Correa, P. Bosi and P. Trevisi</i>	699
15:00	Impact of ewes' GH2-Z genotypes on blood metabolites, mammary gland mRNA expression and milk traits <i>M.R. Marques, P. Mesquita, V. Pires, J.M.B. Ribeiro, R. Caldeira, A.P.L. Martins, C.C. Belo and A.T. Belo</i>	699

15:15	The adverse effects of intrauterine growth restriction on body growth in pigs are mediated by KLB <i>F.X. Donadeu, S.O. Dan-Jumbo, Y. Cortes-Araya, M. Salavati, E. Clark, C. Stenhouse, C.J. Ashworth and C.L. Esteves</i>	700
15:30	Exploring fibre type, adipocyte size and gene expression relationship in two muscles in beef cattle <i>O. Urrutia, B. Soret, A. Arana, L. Alfonso and J.A. Mendizabal</i>	700
15:45	Coffee break	
16:15	Variability of colonic and ileal adult intestinal stem cell derived organoids in pigs <i>R.S.C. Rijkers, M.F.W. Te Pas, O. Madsen, S.K. Kar, D. Schokker, L. Kruijt, A.A.C. De Wit, L.M.G. Verschuren, S. Verstringe and E.D. Ellen</i>	701
16:45	Using piecewise regression models to evaluate beef cow responses to nutritional challenges <i>A. Aliakbari, J. Pires, L. Barreto-Mendes, F. Blanc, I. Cassar-Malek, I. Ortigues-Marty and A. De La Torre</i>	701
17:00	Effect of enhanced early life nutrition on pituitary miRNA and mRNA expression in the bull calf <i>K. Keogh, S. Coen, P. Lonergan, S. Fair and D.A. Kenny</i>	702
17:15	Comparative lipidomics profiling in porcine colostrum exosomes versus mature milk exosomes <i>R. Furioso Ferreira, M.H. Ghaffari, M. Audano, F. Cecilian, D. Caruso, G. Savoini, A. Agazzi, V. Mrljak and H. Sauerwein</i>	702
17:30	Pig saliva metabolome alterations under acute stress <i>L. Morgan, R.I.D. Birkler, S. Shaham-Niv, Y. Dong, L. Carmi, T. Wachsmann, B. Yakobson, H. Cohen, J. Zohar, E. Gazit and M. Bateson</i>	703
17:45	Large-scale analysis of chronic stress in dairy cows using hair cortisol and blood fructosamine <i>C. Grelet, J. Leblois, R. Reding, E.J.P. Strang, L. Dale, L. Manciaux, F.J. Auer, C. Egger-Danner, C. Happymoo, F. Dehareng and H. Simon</i>	703

Poster Session 71	Book of Abstracts page
71.13 Fibre characterization of the Longissimus thoracis muscle in low marbling beef cattle during growth <i>B. Soret, J.A. Mendizabal, A. Arana, O. Urrutia and L. Alfonso</i>	704
71.14 The effect of PET microplastic on the number of VIP-immunoreactive neurons in the porcine duodenum <i>I. Gałęcka and J. Calka</i>	704
71.15 Bile acids in serum of dairy cows with high or normal body condition <i>L. Dicks, K. Schuh, C. Prehn, M.H. Ghaffari, H. Sadri, H. Sauerwein and S. Häussler</i>	705
71.16 PSE-like pork – looking for potential biomarkers and links with myopathy based on proteomic analysis <i>P. Suliga, S. Mebre-Abie, B. Egelanddal, O. Alvseike, A. Johny, P. Kathiresan and D. Münch</i>	705
71.17 Exosomes' isolation and proteomic profile of sheep mononuclear cells supernatant using two methods <i>M.G. Ciliberti, A. Della Malva, M. Di Corcia, A. Santillo, R. Marino, M. Albenzio and M. Caroprese</i>	706
71.18 Effect of early weaning on the gene expression profiles in the skeletal muscle of Nelore beef calves <i>G.L. Pereira, R.A. Curi, L.A.L. Chardulo, W.A. Baldassini, O.R. Machado Neto, P. Moriel, A.P. Enara, G.L.B. Tinoco, G.H. Russo and J.A. Torrecilhas</i>	706
71.19 Ghrelin expression in the skin of the sheep changes in relation to diets <i>F. Mercati, E. Palmioli, P. Scocco, S. Moscatelli, C. Dall'aglio, D. Marini, P. Anipchenko and M. Maranesi</i>	707
71.20 Morphological identification of the leptin and its receptor in the abomasum of the sheep <i>E.P. Palmioli, P.S. Scocco, C.D. Dall'aglio, K.D. Dobrzyn, M.B. Bellesi and F.M. Mercati</i>	707

Room: S. João

Chair: Aluwé / Bee

Session type: Working group session

Theatre Session 72	Book of Abstracts page
14:00 Application of a sustainability assessment tool on European pig farms <i>A.R. Ruckli, S.J. Hörtenhuber, P. Ferrari, J. Guy, J. Helmerichs, R. Hoste, C. Hubbard, N. Kasperczyk, C. Leeb, A. Malak-Rawlikowska, A. Valros and S. Dippel</i>	708
14:30 How to include sustainability in breeding goals – an overview <i>O. Vangen, E. Gjerlaug-Enger and K. Kolstad</i>	708
15:00 Contribution of pig farming to particulate emissions: analysis of emission factors and simulations <i>N. Guingand, M. Hassouna and S. Lagadec</i>	709
15:15 Is fattening immunocastrated pigs influencing the environmental impact of pork production? <i>I. Dittrich and J. Krieter</i>	709
15:30 Poster summary – sustainable pig production <i>M. Aluwé</i>	710
15:45 Coffee break	
16:15 Consumer views on animal welfare and organic and low-input farming: Results from a European survey <i>J.K. Niemi and Ppilow Consortium</i>	710
16:45 Review on the effects of sustainable extensification of pig husbandry on pork quality <i>A. Ludwiczak, E. Sell-Kubiak and Meat Quality Consortium</i>	711
17:00 Individual trajectories of pig farming in France: mechanisms, determinants and prospects <i>C. Roguet, B. Lécuyer and L. Le Clerc</i>	711
17:15 Which economic consequences to expect for pig farms around an African swine fever outbreak? <i>A. Aubry and B. Duflot</i>	712
17:30 The PIGWEB TNA-program: transnational access to leading European pig research installations <i>C. De Cuyper, S. Millet, H.M. Hammon, C.C. Metges and J. Van Milgen</i>	712
17:45 Discussion: how can cooperation through a COST action support sustainable pig production <i>M. Aluwé</i>	713
Poster Session 72	Book of Abstracts page
72.12 Derivation of multivariate indices of the environmental impact in extensive Iberian pig farms <i>E. Angon, J. García-Gudiño, I. Blanco-Penedo, M. Cantarero-Aparicio and J. Perea</i>	713
72.13 Valorisation of effluents from pig production <i>A.C.G. Monteiro, V. Resende and O. Moreira</i>	714
72.14 New reproduction index in selection of dam pig population <i>Z. Krupová, E. Krupa, E. Žáková, L. Zavadilová and E. Kašná</i>	714
72.15 Barriers and levers for the development of organic pig farming <i>L. Montagne, J. Faure and Origami Consortium</i>	715
72.16 Spanish consumers' attitudes towards fresh Iberian pork <i>A. Ortiz, C. Díaz-Caro, D. Tejerina, M. Escribano, E. Crespo and P. Gaspar</i>	715

72.17	Economic assessment of amino acid deficiency or feed restriction during the pig fattening period <i>A. Aubry and G. Dumas</i>	716
72.18	Immunocastration in heavy pig production: growth performance and carcass characteristics <i>G. Pesenti Rossi, M. Comin, M. Borciani, M. Caniatti, E. Dalla Costa, A. Gastaldo, M. Minero, A. Motta, F. Pilia and S. Barbieri</i>	716
72.19	Effect of immunocastration on body lesions in heavy pigs: preliminary results <i>E. Dalla Costa, G. Pesenti Rossi, A. Motta, M. Borciani, A. Gastaldo, G. Berteselli, E. Canali, M. Minero and S. Barbieri</i>	717

Session 73.

Equine nutrition – joint session with Animal Nutrition

Room: Ribeira

Chair: Pinotti / Evans

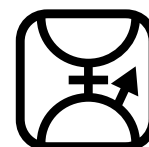
Session type: Theme session

Theatre Session 73		Book of Abstracts page
14:00	Environmentally sustainable horse feeding and management <i>M. Saastamoinen</i>	717
14:30	CAP'2ER® 'équins': an environmental footprint calculator tested on 39 French equine systems <i>A. Rzekęć, C. Vial and S. Throude</i>	718
15:00	Cattle and Esperia pony grazing sustains floristic diversity in thermo-Mediterranean garrigues <i>R. Primi, G. Filibeck, G. Salerno, M.M. Azzella, L. Cancellieri, C. Di Giovannantonio, A. Macciocchi, P.P. Danili and B. Ronchi</i>	718
15:15	Changes of pasture area in Molise region: a study over 30 years <i>A. Fatica and E. Salimei</i>	719
15:30	Long-term consequences of forage presentation on horses' welfare <i>M. Roig-Pons and S. Briefer</i>	719
15:45	Coffee break	
16:15	A high starch vs a high fibre diet: a multidimensional approach to gut health in horse <i>F. Raspa, S. Chessa, I. Ferrocino, I. Vervuert, M.R. Corvaglia, L. Cocolin, R. Moretti, D. Bergero and E. Valle</i>	720
16:45	Use of protected and non-protected live yeast in the digestive health of horses <i>G. Pombo, C. Vasco, Y. Pereira, H. Mazzo, A. Araújo, R. Pereira, A. Silva, M. Duarte and A. Gobesso</i>	720
17:00	Soil ingestion by grazing horses and heifers <i>C. Collas, L. Briot, G. Fleurance, D. Dozias, F. Launay, C. Feidt and S. Jurjanz</i>	721
17:15	Owner-reported use of feed supplements in Swiss riding horses <i>M.T. Dittmann, S.N. Latif and M.A. Weishaupt</i>	721
17:30	Does protein concentrate supplement type effect mid-lactation milk production in grazing dairy cows? <i>Á. Murray, M. Dineen, T.J. Gilliland and B. McCarthy</i>	722
Poster Session 73		Book of Abstracts page
73.11	New insight on the transmission of passive immunity in foals <i>E. Portal, R. Brouillet, I. Gaudry, M. Hilaire, F. Barbe and C. Villot</i>	722
73.12	Case study on free faecal water in horses supplemented with live yeast probiotic <i>S. cerevisiae</i> <i>F. Barbe, D. Christensen, J. Dahl and C. Villot</i>	723
73.13	Suckling frequency during the first 24 hours of life of the newborn foal <i>L. Wimmel, A. Destampes and J. Auclair-Ronzaud</i>	723

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Commission on Pig Production

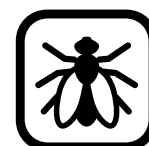
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Commission on Horse Production



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Technical tours

	Early (until June 1 st)	Standard (until July 1 st)	Late & Onsite (until August 16 th)
Tour 1 – Horse Friday, September 9 th	40 €	50 €	60 €
Tour 2 – Dairy Friday, September 9 th	40 €	50 €	60 €
Tour 3 – Agriculture Heritage, Mountain Farming System Friday, September 9 th	40 €	50 €	60 €
Tour 4 – Insect and Southern Extensive Cattle System Friday, September 9 th	40 €	50 €	60 €

Tour 1: Horse

Friday, September 9th

Destinations:

- Centro Clínico de Equinos do Vairão (Vairão – Vila do Conde)
- Coudelaria Maia Correia (Quinta das Arcas – S. João do Coronado)
- Expolima (Ponte de Lima)

Distance: 228 km

Departure from Conference Center – drive to Maia Correia Stud at Quinta das Arcas (32 km), where we will visit a traditional Lusitano stud farm.

Before lunch we will visit the Equine Clinical Center of Vairão (36 km), which is a research center of the University of Porto. After that we will travel to Ponte de Lima (80 km), where we will have lunch and watch a demonstration of some Portuguese native breeds, main uses and traditional activities. Then we return to Porto (passing through the airport) (80 km).

Tour 2: Dairy systems

Friday, September 9th

Destinations: Visit to the Portuguese dairy basin in Vila do Conde

Distance: 50 km

Visits Lactogal and Agros, one of the biggest dairy cooperatives, and visits to dairy farmers in the Vila do Conde and Vairão area, the main dairy area in Portugal.

Tour 3: Mountain farming systems

Friday, September 9th

Destinations: Alvão Natural Park

Distance: 150 km

Visits to Maronesa cattle breed and Bravia Goat breed both local breeds breed in extensive mountain farming systems.

Visit organized with the aid and participation of Terra Maronesa Cultural association.



Tour 4: Insects and extensive cattle systems

Friday, September 9th

Destinations: Entogreen and Mouchão Esfolha Vacas – Santarém

Distance: 300 km

Visits to Entogreen, an insect production industry (Black Soldier Fly) and to Mouchão do Esfolha Vacas, an experimental farm of INIAV, with integrated production of maize and extensive cattle system (Alentejana Breed, one of the autochthonous breeds of Southern Portugal).

A cultural tour in Santarém, the Portuguese Capital of the Gothic, is also programmed.



Social events

Welcome reception

Monday, September 5th



Description: The Organizing Committee would like to Welcome you to the EAAP 2022! Catch up with old friends and make new ones, while enjoying some Portuguese flavours and traditions!

Date: Monday, September 5th (20:30 - 22:00)

Venue: Alfândega Congress Centre/Meeting Venue

Price: Included in the Registration

Dress code: Casual

Portuguese night

Tuesday, September 6th



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NIGHT



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Description: Don't miss this networking opportunity to mingle by the river side. Participants will be able to enjoy the sunset while they can taste some of the Portuguese animal breeds and experience some dancing!

Date: Tuesday, September 6th (20:00 - 23:00)

Venue: Alfândega Congress Centre/ Meeting Venue/ River Quay West Wing

Price: 30€ | 40€ | 50€ (Depending on the date of booking)

Dress code: Casual

EAAP farewell dinner

Thursday, September 8rd

Description: We absolutely recommend that you register for the EAAP Farewell Dinner, at the Palácio da Bolsa. You can't miss this networking opportunity and also get to know one of the most interesting landmarks of the city of Porto.

The building has an impressive structure, difficult to match. The construction started in 1842 in neoclassical style and is situated in the world heritage area, in the city centre, walking distance from the meeting venue, next to S. Francisco Church. This historical building was in fact established on the ruins of S. Francisco Convent after it was burnt down during the Liberal Wars.

The inner central body of the Palácio da Bolsa by Tomás Soller, where the glory of the past and the glamour of the present offer a unique combination. It is surrounded by 24 columns, all reaching to the building's full height and features the Portuguese national symbol, the shield, as well as the 20 coats of arms with which Portugal held commercial and friendly relations at the time. The corner castings celebrate historic dates for the Porto Commercial Association and the floor is made of ornate geometric mosaic tiling.

Check out for yourself! Join us for the EAAP Farewell Dinner!

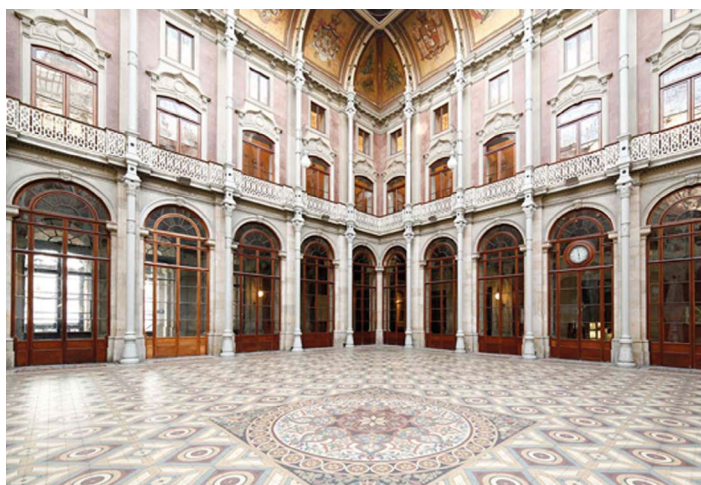
Date: Thursday, September 8th (20:00 - 23:00)

Venue: Palácio da Bolsa/ Stock Exchange Palace, Hall of Nations

Price: 90€ | 100€ | 110€ (Depending on the date of booking)

Dress code: Smart Casual

Address: Rua Ferreira Borge, 4050-253 Porto



Accompanying persons programme

Touristic Tours

Both tours are included in the Accompanying Person registration fee.

Guimarães tour (half day)

Tuesday, September 6th - Departure from the venue at 14:00



Explore the city of Guimarães always associated with the formation and identity of Portugal. It is known and considered as the cradle of the Portuguese Nation, Portugal's birthplace, because here in 1128, the main political and military events took place, with king D. Afonso Henriques, that was the first King of Portugal and gave rise to the independence of Portugal and the birth of a new nation.

Based on its originality and authenticity Guimarães is also classified as UNESCO's World Heritage since 2001. The city has an harmonious, well preserved heritage. It's the home of important historic sites including the 10th century Guimarães Castle and the Ducal Palace. For a moment you might imagine yourself to be in a medieval setting.

After visiting these two impressive monuments we invite you to get to know the "Largo da Oliveira" relax and enjoy the city and have a little snack and hear the story of the "Padrão do Salado" monument that stands outside the "Nossa Senhora da Oliveira" church. Return to Porto and end of the tour.

Resume of the tour

- Departure from the official venue Âfândega Congress Centre to Guimarães at 14:00
- Admission to the Guimarães Castel and the Ducal Palace
- Typical Snack in Largo da Oliveira
- Departure to Porto. End of tour expected at 19:30

(Please note that we are not responsible for any delays caused by unpredicted situations like traffic or other)

Tour includes

- Transfer in Auto Pullman
- English Tour Guide
- Admission to the Guimarães Castel and Ducal Palace
- Typical Snack in Largo da Oliveira
- Price per person: 75€ | 85€ | 95€

(Price depending on the booking date, for a minimum of 15 participantes)

Douro valley tour (full day)

Wednesday, September 7th - Departure from the venue at 9:00



From the heart of Porto this Tour will take you to see the first demarcated and regulated wine region in the world, the “Douro Valley”, classified as World Heritage by UNESCO, in 2001.

Our first stop will be at “Casa de Mateus” in Vila Real. Built in the first half of the 18th century and betraying the finishing touches of Nicolau Nasoni, this palace set in beautiful gardens on a vast farm is one of the finest examples of baroque civil architecture in Portugal.

Moving towards the Douro Valley, which could as easily be called the enchanted valley, such is the beauty and magic that its landscapes offers. Exploring the amazing views where the river flows into the sea and where the Douro wines, produced on its hillsides, also end up, there are various ways to get to know this cultural landscape, that won't leave you indifferent.

Along the tour you will also have the opportunity to have a tasting of the famous Port Wine in a modern Winery as well as a guided tour explaining some of the details about the production of their wine. At this Winery will be prepared a traditional Portuguese lunch that will complete this Douro experience. After lunch we invite you for a relaxing cruise on the Douro river, on a typical Rabelo boat for a closer look through the demarcated region with its amazing scenery and imposing landscape to the vineyards terraces, an unmistakable landmark of this wine region that produces a unique wine that couldn't be made anywhere else. The Port Wine, Portugal's best ambassador in the world.

Resume of the tour

- Departure from the official venue Alfândega to the Douro Valley at 9:00.
- Visit to the Gardens of Casa Mateus, Vila Real.
- Visit to a Winery with Wine Tasting and Traditional Lunch (Food & Beverage)
- Douro River Cruise, in “Rabelo” Boat
- Departure to Porto. End of tour expected at 19:00

(Please note that we are not responsible for any delays caused by unpredicted situations like traffic or other)



Tour includes

- Transfer in Auto Pullman
- English Tour Guide
- Entrance at Casa Mateus Gardens
- Visit, Wine Tasting and Lunch in a Winery
- Douro River Cruise in “Rabelo” Boat
- Price per person: 135€ | 145€ | 155€

(Price depending on the booking date, for a minimum of 15 participantes)

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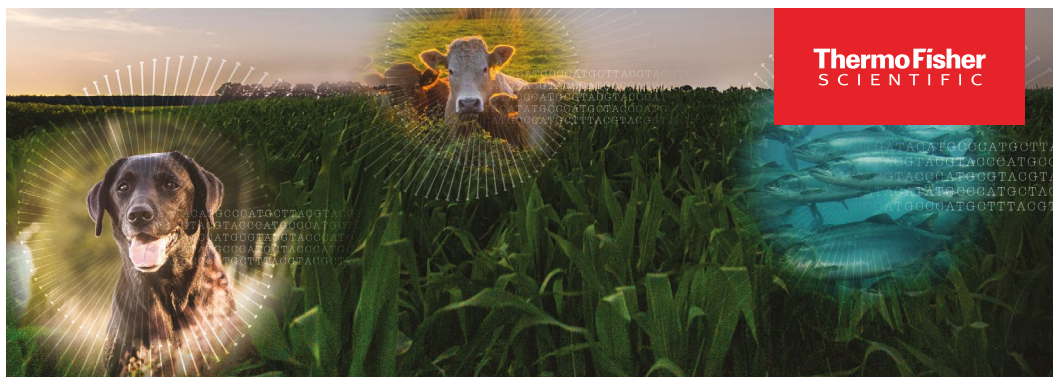
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The image features a brown hen standing on a large, dark rock in a lush green field. In the foreground, two egg cartons are visible. The top carton is green and labeled 'Matinados Bio' with '6 Ovos Frescos de Criação Biológica' and 'IM/L'. The bottom carton is brown and labeled 'Matinados' with '12 Ovos Frescos de Galinhas Criadas ao Ar Livre'. The word 'WELFARE' is written in large, white, sans-serif capital letters across the top of the image. The Matinados logo, featuring a stylized sun and a rooster, is in the bottom left. The CAC logo, with the text 'CAC GROUP', is next to it. A QR code is in the bottom right corner.

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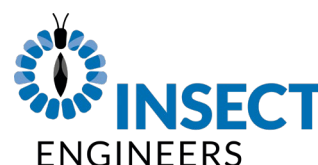
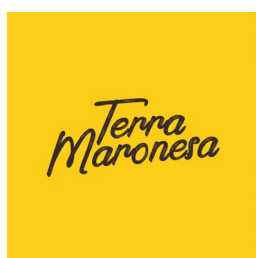
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