

Main topics:

- ★ Wishes from the former WRSA President
- ★ 12th World Rabbit Congress
- ★ Selected Publications
- ★ International and National Congresses
- ★ New WRSA Executive Committee
- ★ New WRSA branches

Dear WRSA officers and members,

Six months have passed since our tenth Newsletter. A few months after we could finally celebrate our 12th World Rabbit Congress, there are certain aspects that we want to inform you about and that will surely be of interest to you. We have tried to summarize the main news of these last six months in the current issue.

Wishes from the former WRSA President

Dear WRSA members and followers,

At the dawn of this new year, everyone is still concerned by the COVID pandemic, and everyone also hope to success in this world fight. However, the world challenge for food security is still present, and we are sure that rabbit farming will contribute to this challenge. The past year was rich of great events, and particularly with the 12th World Rabbit Congress in Nantes (France). Thanks to the work of the WRSA office and scientific committee and to the French organising committee, our congress was held under a hybrid format, with 250 participants physically present, and about 100 online participants. The high scientific quality of the main conferences together with short communications and round table make a successful congress.

All papers of the 12th WRC will be soon available on the WRSA website, together with presentations and video records of all sessions.

In 2021, our community was enlarged with two new branches, from Malaysia and Philippines, officially registered as WRSA branches during our past General Assembly (Nov. 2021, during the 12th World Rabbit Congress).

Visit our WRSA website (<http://world-rabbit-science.com/>) and our facebook page (<https://www.facebook.com/wrsaface/>).

Do not forget to use our discussion forum for every question to our community:
<https://groups.google.com/forum/world-rabbit-science-asso>

Visit and publish in the WRSA journal: World Rabbit Science
<http://polipapers.upv.es/index.php/wrs>

Have a healthy, peaceful and active year.

Thierry GIDENNE 🐰🌐
WRSA General Secretary
INRAE, Auzeville (France)



12th World Rabbit Congress

The 12WRC took place in the City of Congresses of Nantes, a perfect space for this type of event, with 3 rooms with a capacity of 450, 200 and 80 people, perfect for the different sessions, and a large reception area, where arranged registration, face-to-face meetings, coffee breaks, meals, and the reception event, all in a friendly and secure environment. On the other hand, Nantes also offered attendees all its charms as a historic and tourist city.

On Wednesday, November 3, after the **Opening Ceremony** by the organization and different authorities from INRAE, the Ministry and Nantes, the congress began with the first three invited speakers. The first of them was on the **hemorrhagic viral disease (RHDV2)**, presented by

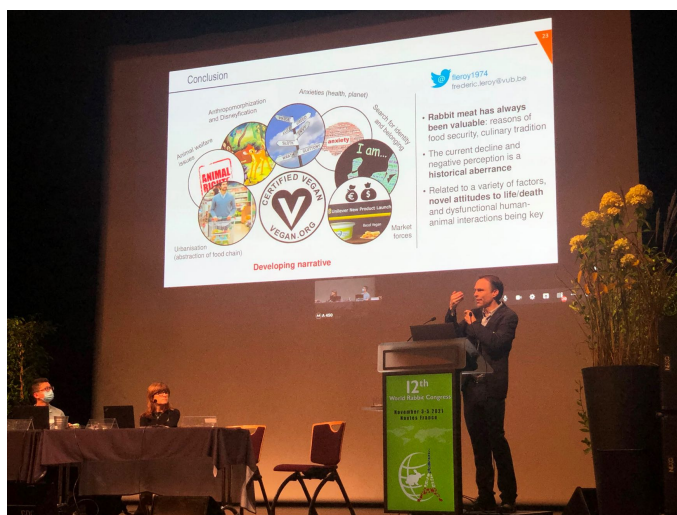
Lorenzo Capucci of the Experimental Zooprophyllactic Institute of Lombardy (Italy), who reviewed the evolution of RHDV2 ten years after its appearance. In this presentation, he told us that the appearance of EBHSV, RHDV and RHDV2 in a few decades cannot be considered as unique random events, and that therefore the appearance of new pathogenic lagoviruses may not have ended, and a high level of vigilance must be maintained. Secondly, it was the turn of a presentation on the **challenges in rabbit doe nutrition**, which was presented by Javier García from the Polytechnic University of Madrid and Juan José Pascual from the Polytechnic University of Valencia (Spain). They highlighted the relevance of and adequate maturity of females at first mating, the importance of the levels of ω -3 fatty acids, soluble fibre and some amino acids to improve reproductive traits, and the possible use of some glucose precursors to avoid excessive prepartum mobilization. Next, Gabriela González-Mariscal from the Autonomous University of Tlaxcala (Mexico) spoke about the application of **neurobiology in the reproduction of rabbits**, where she reviewed aspects such as biostimulation, lactation of kits, and the ovulation reflex, highlighting the importance of taking these behaviours into account when developing better breeding procedures on farms. Then, the first session of **Oral Communications** took place, on nutrition and feeding, pathology and hygiene, and biology and physiology, where speakers from 8 countries presented 17 short papers.

The afternoon session began with the first **Poster Session** on nutrition and feeding, pathology and hygiene, and biology and physiology in the conference hall. The posters were arranged digitally in a loop on three screens in the hall. During said session, the moderator of each session invited the authors of the posters to present their work briefly next to said screens and answer the questions of the attendees. This was followed by the second session of oral communications on nutrition and feeding, pathology and hygiene, and biology and physiology, where speakers from 7 countries presented 15 short papers.

To end the day, 3 **Round Tables** took place in parallel. The first one was on rabbit breeding in the post-antibiotic era, a challenge that can and must be won, moderated by Joan Rosell (Spain) and Samuel Boucher (France). In the second, Luc Maertens (Belgium) moderated the table on rabbit housing, where possible new housing systems were discussed based on new regulations and social demands. Both tables confirmed the enormous concern of the sector in the face of these two challenges, and the need to develop knowledge that allows them to be faced from economic sustainability. Finally, Thierry Gidenne (France) and Saidu Oseni (Nigeria) moderated a table on the use of the rabbit as a tool for creating wealth in developing countries.



The second day of the congress began with the presentation in the central hall of two invited papers. The first of them came from the hand of Rödel Heiko from the University of the Sorbonne in Paris (France) on the **social aspects** of the **behaviour and reproduction of the wild rabbit** and its **implications on rabbit breeding**, showing interesting aspects of joint breeding females, such as antagonistic interactions increase when the group is more numerous, the dominant ones have higher productivity, the productivity of the group is reduced with increasing density and the importance of the use of sisters when generating reproductive groups. Next, Simona Mattioli from the University of Perugia (Italy) spoke to us about the **physiology and factors that modulate ovulation** in reproductive management, describing alternatives to the use of GnRH analogous, such as β -NGF, and about the need of alternatives to the injection of exogenous hormones. This was followed by the third session of oral communications on genetics, ethology and welfare, and reproduction, where speakers from 6 countries presented 16 short papers. The third invited talk of the day was presented by Frederic Leroy from the University of Brussels (Belgium) and dealt with the consumption and marketing of rabbit meat. Rabbit meat, despite being a sustainable, healthy meat, rich in nutrients and without religious restrictions, is at a crossroads due to emotional issues or low gastronomic tradition in urban areas. To end the morning, the fourth session of **Oral Communications** took place, on pathology and hygiene, ethology and well-being, and product quality, where speakers from 6 countries presented 16 short papers.



In the second afternoon, the second session of posters on ethology and well-being, reproduction and product quality began, with the same system as the previous day, and then the fifth session of **Oral Communications** took place, concurrently in 3 rooms, on nutrition, biology and physiology and product quality, where speakers from 4 countries presented 16 short papers.

To end the day on Thursday, the general meeting of the WRSA and two round tables took place simultaneously. At the **General Assembly** he reported on the financial status of the WRSA, the evolution of the WRS magazine, activities in developing countries, welcomed two new branches (see below), and appointed the new executive committee of the WRSA for the next 3 years (see below). On the other hand, we have the pleasant news to inform you that the next world congress will be held in Catalonia, co-organized by IRTA and ASESCU, and whose candidacy was presented by Mariam Pascual in said assembly.

On the other hand, the fourth **Round Table** was moderated by Karel De Greef and Jorine Rommer from Wageningen University (Holland) and dealt with the **confiscation of rabbit carcasses**, its main causes and opportunities to try to reduce them, and the fifth, again moderated by Samuel Boucher and Joan Rosell, on the management of **coccidiosis at the farm level** and alternatives to classic coccidiostat.

On Thursday night we were able to enjoy the **Gala Dinner**, which was held at the Chateau de la Poterie, a place with a special charm, to which the attendees arrived by boat on the Loire, while enjoying a cocktail. Night of conversation, good food and wine, and live music.

Friday, November 5 was the last day of the congress. We started the day with two guest speakers. The first was presented by Melanie Gunia from INRAE (France) and M^a Luz García and M^a José Argente from Miguel Hernández University



(Spain) on the **genetic factors of functional parameters**, where they presented selection programs based on longevity, robustness, resistance to diseases and litter size variability, as well as new omics tools, all aimed at obtaining more resilient animals. Next, Laping Wu from Qinghua East University (China) made a presentation on the **rabbit meat trade** in the main producing countries and trade strategy, such as attention to self-consumption and the search for new markets and alternatives to new consumers. The rest of the day we were able to enjoy three consecutive sessions of **Oral Communications** on economy, reproduction, biology and physiology, nutrition, genetics, pathology and hygiene, and another of free topics, where speakers from 11 countries presented 48 short works, and a new poster session in the field of genetics and economics and production systems.

The congress ended with the **Closing and Awards Ceremony** for the young researchers (*T. Amroun, A. Arnau-Bonachera, P. Cavadini, J. Chen, E., M. Cullere, Laclef, E. Mussard, C. Rouillon, A. Zubiri-Gaitán*). In this ceremony as also thanked the organizers, invited speakers, round table leaders and members of the WRSA committee, and the handover to Spain for the celebration of its next edition in Catalonia in 2024. As a final summary, indicate that in the congress a total of 100 papers in presence and 84 on line.

Selected Publications

As you well know, **World Rabbit Science** (WRS) is one of the few indexed journals (IF: 1.233) that remains in the hands of academia (Universitat Politècnica de Valencia) and our scientific association. Thanks to this, WRS is a **free access** journal for readers **with no publication fees** for authors.

Currently, our institutions and PhD students ask us to publish in Q1 open access journals to increase our indexes. Consequently, publishers, that are aware of this situation, make us must **spend a significant amount of money** to publish our knowledge yearly. However, **we have the solution in our hands**, a journal that publishes in open access and without fees. We are completely sure that, if WRSA members send high quality papers to WRS for 2-3 years we would place it in Q1, solving all these problems forever.

Here you can find the most Popular Articles in World Rabbit Science last 12 months:

1. [Cardboard and rubber objects as mean of environmental enrichment for rabbits](#) 3068 views since: 2021-06-30
2. [Challenging the growing rabbit with a moderately pathogenic E. coli under ad libitum or limited feed intake conditions: impact on digestive physiology, bacterial communities, and on post-weaning growth](#) 2020 views since: 2021-03-31
3. [Molecular genetic diversity of some rabbit breeds based on mitochondrial 16S rRNA sequences](#) 1589 views since: 2021-09-30
4. [Hierarchical clustering as a tool to develop a classification scheme for rabbit meat quality](#) 1450 views since: 2021-09-30
5. [Association of GH gene polymorphism with growth and semen traits in rabbits](#) 1303 views since: 2021-03-31

Other publications in the last 6 months (the 5 first in function of the cites and position in Google Scholar):

1. [Neuroendocrinology applied in rabbit breeding](#). World Rabbit Science, 2021, 29: 231-238
2. [Physiology and modulation factors of ovulation in rabbit reproduction management](#) World Rabbit Science, 2021, 29: 221-229
3. [Outbreak of Rabbit Hemorrhagic Disease Virus 2 Infections, Ghana](#) Emerging Infection Diseases, 2021, 27:1999-2002
4. [Rabbit neurospheres as a novel in vitro tool for studying neurodevelopmental effects induced by intrauterine growth restriction](#) Stem Cells, 2021, 10:209-221.
5. [Litter size component traits in two Algerian rabbit lines](#) World Rabbit Science, 2021, 29: 51-58

International and National Congresses

In the last six months, WRSA has news about three events held on-line due to the COVID-19 pandemic.

45th Symposium of Rabbit Farming ADESCU (Spain)

Last October 6 and 7, 2021, the Spanish rabbit sector was invited to attend the 45th ADESCU Rabbit Symposium. Given that the situation of the COVID pandemic advises to maintain prudence even at that time, the congress of the rabbit sector was held in virtual mode in two afternoon sessions.

The objectives of the forty-fifth edition of the Rabbit Symposium was to serve as a meeting point for rabbit farmers, technicians, businessmen, companies, professionals, teachers and researchers to analyze the current situation of the rabbit sector in Spain, address issues of concern and serve as a scenario for the presentation of the advances in research and technological development that have occurred in the field of rabbit farming since the 2020 WebiAsescu.

The communications of the Symposium are available for the members at: <https://asescu.com/symposiums/libros-de-acta/>

However, you can obtain free access to the congress, invited paper and presentation in the ADESCU YouTube channel:

https://www.youtube.com/channel/UCuVX9_w1bk7VAiLCaKTFihg

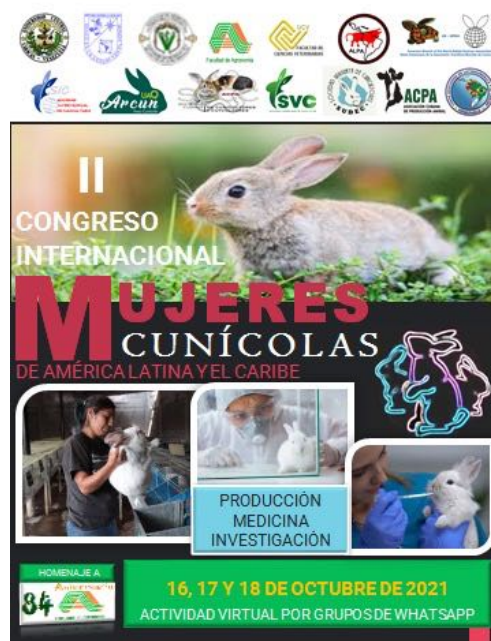


II International Congress of Women of Latin America and the Caribbean interested on Rabbit Farming (Venezuela)

The Rabbit Center for Rural Organization FAGRO-UCV of Venezuela in collaboration with AB-WRSA organized the 2nd International Congress of Women from Latin America and the Caribbean Interested in Rabbit Farming on October 16-18, 2021. As a consequence of the pandemic, and in order to reach all interested women from all over America, a new online system accessible to everyone was used, such as the WhatsApp application.

Eleven WhatsApp groups were created, where the organization was synchronously uploading the presentations of the invited speakers, slide by slide, each one accompanied by a voice message. In this way, the speakers were able to reach more than 1500 people who followed the congress through their WhatsApp application.

A total of 23 invited speakers from 9 countries participated in the Congress (Brazil, Colombia, Cuba, Guatemala, Mexico, Perú, Spain, Venezuela and Uruguay). Among the speakers participated researchers, technicians, rabbit producers, associations, trainers, furriers, chefs, publicists... The WRSA was present at the congress through the Secretary General (Juan José Pascual) who presented the activity of the WRSA in the last years.



The presentations were about successful experiences, organizational systems, the role of women and their empowerment through rabbit farming, technical aspects (genetics, reproduction, pathology, nutrition...) and economic management, gastronomy, sustainable production and marketing.

The WRSA has access to all the contents of the congress, which are available to its users.



VII SENACITEC (Brazil)

The VII National Seminar of Rabbit Science and Technology (original name SENACITEC) took place from November 23 to 25, 2021, bringing an element that distinguished it from all previous editions: it was totally virtual and free.

Under the joint organization of the Rabbit Science Center - CECO (State University of Maringá - UEM) and the Brazilian Scientific Association of Rabbit Science - ACBC, the event's program consisted of lectures, workshops, presentation of scientific works, debates and exchanges of experiences between Universities, Institutes, Productive Sectors, Rabbit Farmers, Tutors and other interested people.

There were 221 registrations for the event, most of them composed of undergraduate and graduate students, but also with a large number of rabbit breeders (pet and meat), rabbit tutors, professors and researchers of rabbit science. The three best works were presented orally also, during the event's schedule. Twenty-five scientific papers were submitted, all published as proceedings of event in a special edition of Brazilian Journal of Rabbit Science:

<http://www.rbc.acbc.org.br/edicoes/edicoes-anteriores/anais-do-vii-seminario-national-of-science-and-technology-in-cuniculture-senacitec-2021>).

Inside the event, the winner of the Laura de Sanctis Award was revealed. As the winner the indicated in this edition was Professor Luiz Carlos Machado – IFMG, researcher, communicator and enthusiast of the Brazilian Rabbit Science.

For those who want to watch the full program of the event, just access the UEM's Channel of the Center for Studies in Rabbits - CECO on Youtube (<https://www.youtube.com/channel/UC8erIRD1eEjKPbZV4OcYhjA>). So far, more than 1100 views have been registered in the three days of transmission of the event.

The Organizing Committee of the VII SENACITEC – UEM 2021 thanks all the participants and hopes to meet them at the next edition of the event, to be held in Bambuí-MG, in 2023, under the coordination of Professor Luiz Carlos Machado - IFMG.

Sources: Prof. Dr. Leandro Dalcin Castilha and Prof. Dr. Luiz Carlos Machado



Upcoming 2022 congresses: Although we know that they are going to be held, we do not yet have an official date for the national congresses of Spain (probably June, 1-2), Italy, Hungary.

New WRSA Executive Committee

In the last General Ordinary Assembly of WRSA held last 4th November 2021 at in the Cité des Congrès, Nantes, France, took place the Election of the new WRSA Executive Committee Officers for 2021-2024.

At the beginning of the General Assembly, the following candidatures had been received: For President: Prof. J.J. Pascual (Spain). For General Secretary: Dr. Thierry Gidenne (France). For Vice-President: Prof. Y. Qin (China), Prof. Y.E. Felipe-Pérez (México), and Dr. M. Pascual (Spain). For Treasurer: Prof. A. Trocino (Italy). For Secretary for Developing Countries: Dr. Saidu Oseni (Nigeria) and Dr. M. Kimse (Ivory Coast).

In conclusion, the new board of the WRSA is:

President: Juan José Pascual (Spain)

Vice-presidents: Yazmín Eliabeth Felipe-Pérez (Mexico), who will co-chair with the WRSA president, the scientific committee of the next WRC.

Yinghe Qin (China), in charge of young scientists and who chair the scholarship grants committee for the congresses.

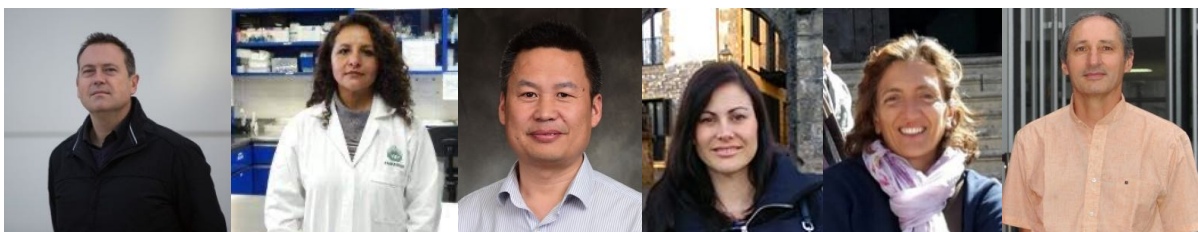
Mariam Pascual (Spain), in charge to contribute to organising committee of the next WRC (budget, sponsoring help, etc.).

Treasurer: Angela Trocino (Italy)

General Secretary: Thierry Gidenne (France)

Secretary for LDC: to be decided at the beginning of 2022 after effective payment of the branches.

WRSA welcomes all new members of our Executive Board.



New WRSA branches

In the last General Ordinary Assembly of WRSA held last 4th November 2021 at in the Cité des Congrès, Nantes, France, was also approved the inclusion of two new WRSA branches.

Malaysia branch

Mrs Aisyaturridha presented the situation of the rabbit farming in the country, and recalled the list of members of the new association "MARBA" Malaysian Rabbit Breeder Association.

Organization: President (Beh Aik Kang), Vice President (Aiyaturridha), Secretary 1 (Kamarulazwa), Secretary 2 (Noor Azlan), Treasurer (Yo Hui Ling) and Committee members (Jaafar, Mohd Isyraf and Mohd Isa).



The rabbit industry in Malaysia has more than 600 small farms, with approximately 50 farmers with medium scale production. Rabbit farming worth of Malaysia is about 25000 in 2019, with a demand increase of 7% per year. In this situation, local demand is growing faster than global demand, and there is an insufficient rabbit meat supply.

The new branch is developing a lot of initiatives related with internship, incubator (collaborative initiatives), collaborative research (UPM, UiTM, UM), local workshops and seminars, international seminars (recently the International Conference on rabbit Production in Tropical Climate and the 4th Asian Rabbit Production Association Conferences), support groups, promotion and. Marketing of rabbit meat...

MARBA was agreed as a new branch of the WRSA, after a favorable vote at unanimity.

Philippines branch

Angelina Veneracion presented the situation of the rabbit farming in the country, and recalled the name of the new association "ARaMP" Association of Rabbit Meat Producers, Inc.

Organization: President (Artemino C. Veneracion Jr.), Vice President (Vicente E. Galvez), Secretary (Angelina M. Veneracion), Treasurer (Joseph C. Mamauag) and Trustee (Edgardo G. Ramos).

The new branch is developing a lot of initiatives related with rabbit festivals, forums with stakeholders, seminars on rabbit production and meat processing, crafting a roadmap of the Rabbit Meat Industry with the support of the DA-Bureau of animal industries, participating in international conferences on rabbit production and holding a national Rabbit Congress (the first one last February 27-28, 2020).

The new branch has also many goals for the future, such as the establishment of rabbit breeder multiplier farms, common facility slaughterhouses, the Rabbit Center of Philippines, the redaction of Guidelines and Standards for the Rabbit Industry, hold the 2nd Rabbit Congress in the Philippines in 2022, increase the collaboration with universities, as well as the education of the farmers and promotion of rabbit meat.

ARaMP was accepted as a new branch of the WRSA, after a favorable unanimous vote.

Best regards and wishing you a great year 2022

Juan José Pascual
President of WRSA



Valencia (Spain), January 24, 2022

WRSA newsletter (January 2022)



ARaMP inc.

