ORAL 12: Velogenic Newcastle disease virus takes advantage of transmission ability capabilities to control suppress lentogenic virus during coinfection

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Since the first Newcastle disease virus (NDV) isolated in 1920s, many other strains have been successfully isolated. Most of these strains are velogenic or at least having a virulent-like fusion protein’s cleavage sites. Newcastle disease vaccines were developed several decades ago and since have been used extensively worldwide. This continued vaccination with “old” vaccine strains is thought to drive viral evolution and foster the emergence of virulent strains. Another possibility is the better fitness of virulent strains for transmission and amplification in the targets species that makes lentogenic strains less frequent in the field. In order to test whether the virulent NDV strains take advantages of their transmission capabilities to suppress the nonvirulent strains, reverse genetics was used to generate one velogenic and one lentogenic NDV strains with the same genetic background and with EGFP and RFP markers, respectively. These viruses were used to individually infect or co-infect BHK-21 cells. Both strains could persistently infect the cells and showed similar ability of propagation over 15-16 cell passages. However, when co-infected, the velogenic strain takes took control on the lentogenic strain that gradually disappeared until the 10th passage. This competition could partially explain why most isolated NDV strains are velogenic.
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It is a great honour and a privilege for me to give you all our warmest welcome to the 10th Annual Meeting of EPIZONE, the first to be celebrated in Spain. INIA-CISA, as the host institution, has been fully committed on this challenge from the beginning, and we do hope that the final result will be satisfactory for participants, sponsors and organizers. We wish to thank specially to them, as this event could not be possible without any of these essential parts. The financial support from sponsors, the availability and contributions from keynote speakers, the high scientific level of oral and poster presentations from participants and, at the end, curious, active and interested assistants, will contribute to the success of the meeting. From the organizing committee I want also to thank the EPIZONE secretariat and coordinator for their continuous help and implication in the effort. Finally, my gratitude to the people at the local and international scientific and organizing committees that have been working together very hard to yield a balanced, wide-scoped and intense (maybe too intense?) programme. Special thanks to Jovita Fernandez Piñero, who has been in charge of many tasks, and has fulfilled a brilliant labour. And will not forget about the enthusiastic Young Epizone people; thank you for your work and for organizing such a well-designed session.

Under the general title of “Going Viral”, and from a One Health perspective, we have outlined three concentric circles defining the main topics:

**Topic I:** Animal Health in a changing World, dealing with global threats for animal health.

**Topic II:** Threats at the European border, paying attention to diseases in the neighbouring areas.

**Topic III:** Current challenges inside Europe, where the main diseases affecting the European countries will be discussed.

As in previous EPIZONE meetings, diagnostics, intervention strategies, epidemiology and surveillance, risk analysis and some other aspects will be approached by recognized experts in specific sessions. Many diseases which are familiar to us will receive attention, from Foot and Mouth Disease to West Nile Virus Disease or the more recent episodes by Lumpy Skin Disease, Pest des Petits Ruminants and some others. African Swine Fever and Bluetongue have been the most “popular” diseases among contributors, this revealing their current relevance.

I hope that the efforts of contributors, sponsors, participants and organizers will provide an opportunity for the “epizootic community” to work together, to plan new initiatives, to interact and to share a good time in Madrid.

Victor Briones
Acknowledgements

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- National Institute for the Agricultural and food Research and Technology (INIA)
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