

## ***Bluetongue: a disease that does not speak 'one tongue' only***

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It is now 1 year since the IV International Conference on Bluetongue and Related Orbiviruses closed its doors. This is the first of 2 issues of *Veterinaria Italiana* dedicated to this international event, collecting selected papers presented at the conference. A second issue will be published at the beginning of next year.

Thinking of the Rome conference, I am sure I am not wrong when I say that it was really a great meeting, whose success is well represented in Ford's words: "coming together is a beginning; keeping together is progress; working together is success" (Henry Ford). The conference was an unmissable occasion to start new collaborations and new research activities, it provided the opportunity for the over 300 delegates among researchers and regulators at the highest international level to speak the same 'blue' tongue.

All 7 sessions of the meeting, however, highlighted that, when dealing with Bluetongue (BT) virus, we have to be prepared to be surprised and to continuously adapt our beliefs. As soon as we inch ahead gaining more understanding on this virus, it evolves in response. In the last few years, new serotypes and new potential vectors have been identified, an additional nonstructural protein revealed as well as the capability of some field strains/serotypes to transmit vertically or horizontally, to reassort their RNA, to alter their pathogenicity, host specificity and spread capacity disclosed. In other words, the virus is capable to change its characteristic and behaviour and to adapt to new environments and epistystems. Same serotypes/strains could cause severe clinical cases involving different species and determining significant losses in some areas or circumstances, while being completely asymptomatic with low or insignificant economic impact in other areas or circumstances.

These peculiarities were clearly emphasised in the meeting and a constant monitoring of the genetic evolution of the BT virus was recommended. Reassortments between field strains, vaccine strains, and between field and vaccine strains have generated and still generate novel genotypes. The potential for these progeny strains to be transmitted more effectively poses significant additional risks for ruminant health. Although, it is an aspect still poorly understood and which requires further investigation, it is clear that the threat of exotic topotypes should not be underestimated and that an evaluation of their ability to cause severe clinical disease in endemic epistystems is increasingly more necessary.

Evolutionary dynamics and selection pressure are also behind the emergence of new serotypes. Five new serotypes (BTV-25, BTV-26, BTV-27, BTV-28 and BTV-29) have been identified since 2008, 3 of them in the last year only. They

have shown novel properties posing, as underlined during the conference, a pressing need to characterise their biology and significance.

Thus, Bluetongue strains and, consequently, the disease that they might cause are multifarious, unpredictable, and extremely difficult to handle and tackle.

When dealing with Bluetongue, we cannot ignore its severe impact on the livestock economy, which is determined more by the consequences of indirect costs mostly associated with trade barrier, surveillance programs, and prevention than by the results of direct costs caused by the disease itself, such as mortality and morbidity of sick animals – including weight loss, reduced milk yield, abortion, and associated veterinary costs.

After the last BTV-8 re-emergence in France, controversial discussions on Bluetongue control and prevention strategy arose among policy-makers, international organisations, and stakeholders. The prospect of Bluetongue declassification or the application of preventative rather than pure reactive strategies are focal points of the debate. I am convinced that Bluetongue prevention and control strategies cannot close their eyes to the extreme plasticity of the virus and the resulting consequences.

In this erratic and uncertain scenario, it is thus crucial to engage in a continuous dialogue among researchers, laboratories, and policy-makers to gain a deeper understanding of new developments and increase mutual knowledge, and, particularly in these flowery winters, a unique shared and integrated strategic approach is very much desirable and more than welcome.

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