

ORAL: BREEDING SITES OF BLUETONGUE VIRUS VECTORS IN BELGIAN COWSHED

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Bluetongue is an emerging disease of ruminants that was reported in August 2006 in northern Europe. In 2007 and 2008, BTV serotype 8 continued its spread across Europe and showed virulence in France. This observation indicates possible overwintering of the vector from year to year. The biting midges responsible for transmission of BTV in northern Europe belong to the genus *Culicoides*, but only few species are vectors of this virus. Breeding sites of bluetongue vector species have been found near farms (e.g. silage residues) and in neighboring meadows (e.g. overwintering cattle dung) but never inside sheds.

We conducted a study on five cattle farms in Belgium during February–October 2008. Three samplings were performed and each soil sample collected inside cowsheds was incubated to enable adult midges to emerge. Among 15 soil biotopes sampled, only one showed the emergence of adult *Culicoides* biting midges: dried dung adhering to walls inside animal enclosures and resulting to the partial removal of animal litter. It was a breeding site for the *C. obsoletus/scoticus* complex. Physico-chemical characteristics showed that midges of this complex are more prevalent in soil samples with a high carbon:nitrogen (C:N) index. So *Culicoides* biting midges are able to complete their life cycle in animal enclosures.

We identified a breeding site for the primary BTV vector in a cowshed in northern Europe. These observations could explain the persistence of BTV from year to year despite fairly harsh winters.

Hygienic measures on farms - such as removal of residual animal feed and feces and of material from silage structures and sheds - could reduce midge populations and improve efficacy of vaccination campaigns against BT in Europe.