MONITORING OF BLUETONGUE DISEASE ON THE SHEEP FARM

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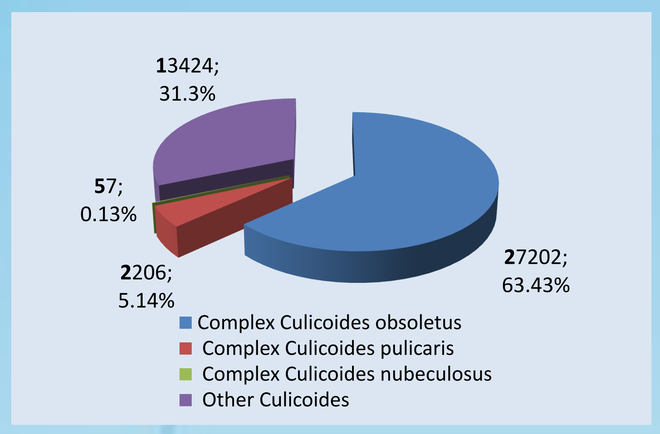
Aim of study

The aim of this study during years from 2008 to 2011 was to gain information about the incidence and epidemiological situation of an economically important orbivirus transmissive disease of bluetongue in the sheep farm.

Materials and Methods

- **Surveillance of Bluetongue disease consisting of entomological survey, clinical and biochemical examination of animals and serological diagnostics was realized in the period of time since May 2008 to December 2011 in the sheep farm (356 m a. s. l.).**
- **Entomological survey consisted of capturing midges and their classification based on the characteristical marks (Goffredo and Meiswinkel, 2004).**
- **Clinical examination of animals was carried out monthly on the basis of general inspection of animals (clinical examination of the herd and infected animals).**
- **Biochemical examination of blood consisted of hematological profile (Hb, RBC, Htk, Le, differential blood picture), enzymatic activity (ALP, AST, GGT, CPK), concentration of total bilirubin, total protein, albumin, creatinin, total immunoglobulins, urea, beta-hydroxybutyrate and minerals (Ca, P, Fe, Cu, Zn).**
- **Serological examination for the detection of anti-BTV antibodies (vp 7 protein) took place in the State Veterinary Institute in Zvolen monthly using ELISA method (ID VET ID Screen Bluetongue Competition Kit for the detection of anti-VP7 antibodies by competitive ELISA).**

Results



Entomological survey

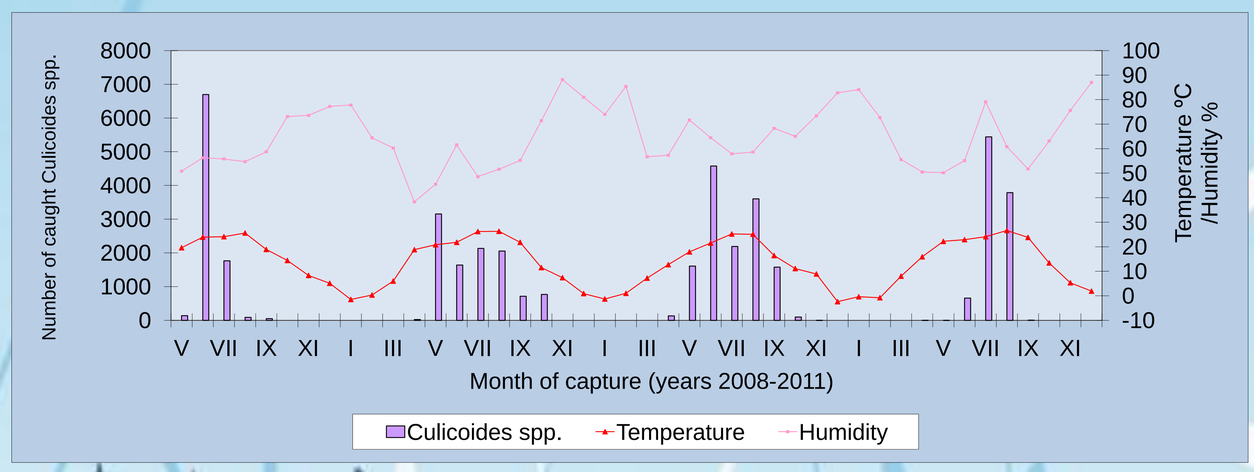
- **During years from 2008 to 2011 in the sheep farm totally 42 884 midges were captured.**
- **From this number complex *Culicoides obsoletus* was 63.43 % (27 202), complex *C. pulicaris* was 5.14 % (2 206) and complex *C. nubeculosus* were 0.13 % (57). From other *Cullicoides* spp. were 31.3 % (13 424).**
- **The peak in seasonal dynamics was in months June, July and August.**

Clinical examinations

During clinical examination of cattle we haven't noticed any clinical symptoms characteristic for bluetongue disease.

Serological and virological findings

No positive causes were detected.



Laboratory findings

Variations in energy metabolic profile (TG, TL), hepatal profile (creatinin, Tlg, TBi, Urea) and mineral profile (Zn).

Conclusions

A. **During entomological survey presence of *Culicoides* midges that are considered to serve as a potential BT vectors was proved with dominance of *Culicoides obsoletus* complex. Activity of midges is dependent on an advisable climatic condition. Therefore it is recommended to focus also at the monitoring of the meteorological data.**

B. **Analysis of biochemical markers reflecting the alteration of the organ systems that are affected in the course of bluetongue virus infection (e. g. haematopoetic, enzymatic, hepatal, immune system) is needed to assess general health state in diseased animals and during early diagnostics.**

C. **Due to the *Culicoides* occurrence in the farm during transmission season ensuring of continual serological analysis of animals has been needed as an unthinkable part of bluetongue surveillance, that's also in accordance with OIE Terrestrial Animal Health Code (2004).**

Acknowledgements

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