EVALUATION OF IMMUNE RESPONSE AGAINST INFECTIOUS BOVINE RHINOTRACHEITIS VIRUS BY IMMUNOENZYMATIC ASSAY

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SUMMARY

Infectious Bovine Rhinotracheitis is a disease produced by Bovine Herpes Virus type I, which affects respiratory and genital tracts of bovines, but can induce systemic infections leading to calves death and abortions. The use of specific and sensitive serological assays has a great importance within epidemiological surveillance programs. Thus, the ELI-IBR kit has been developed by Pasteur Institute Bucharest, for detection of antibody against IBR, based on indirect immunoenzymatic assay (ELISA). The results are expressed in ELISA units (EU) based on S/P ratio (OD sample / OD positive control), with the following interpretation: S/P 0.27, EU 27 – positive; S/P less than 0.25, EU less than 25 – negative. The kit is characterized by a sensitivity of 95.16%, specificity of 97.91% and an overall correlation to virus neutralization – 96.36%.

An serological screening has been done on serum samples from calves belonging to peasants. The animals were classified as follow: vaccinated calves, calves that have recently developed the disease (shelters 1 and 4) and animals on the beginning of disease. For each calf on these groups, two serum samples have been taken within a period of 21 days.

In case of vaccinated calves, there were not antibodies against IBR in the first sampled sera (on vaccination day). After 21 days post vaccination, an increased level of anti IBR antibodies was detected, with a mean value of 45 EU.

The animals that have recently developed the disease, have presented a different antibody dynamics for each shelter. The first sampled sera from shelter 1 shown antibodies against IBR with a mean value of 54 EU and after 21 days an increase of antibody level at 75 EU has been recorded. Similarly, the sera from shelter 4 were positive at first sampling (54 EU), but after 21 days, the antibody level has decreased at 29 EU.

The calves on the beginning of disease, on the first day of sampling, had not a significant level of antibody (24 EU), but for the second sampling after 21 days since the disease has occured there were an increase of this mean level at 34 EU.