IO2.2. Collection of best practices on zoonoses interventions

University of Zagreb Faculty of Veterinary Medicine, Croatia

Type of practice	guideline/ case study/ project/ **intervention programme**/ testing/ guidance tools/ articles
Best practice title	**Program for determining the prevalence of lyme borreliosis in Republic of Croatia**
Period of implementation	Two years
Location	The area of five counties in the northwest Croatia
Geographical coverage	National
Contacts	Ministry of Agriculture Republic of Croatia, Ulica grada Vukovara 78, 10000 Zagreb, Croatia, www.mps.hr Veterinary and Food Safety Directorate, Planinska 2a, 10000 Zagreb, Croatia University of Zagreb Faculty of Veterinary Medicine, Department of Microbiology and Infectious Diseases with Clinic. Heinzelova 55, 10000 Zagreb
Link	University of Zagreb Faculty of Veterinary Medicine, Department of Microbiology and Infectious Diseases with Clinic. Laboratory for leptospirae. Heinzelova 55, 10000 Zagreb www.vef.unizg.hr
Target audience	People professionally exposed to infection with *Borrelia burgdorferi* (veterinarians, hunters, farmers, forest workers…) People who frequently stay in nature (hikers, mountaineers, athletes…)
Objectives	The objectives of this program are: - The aim of the program is to test horses serum samples for the presence of antibodies to bacteria *Borrelia burgdorferi*, the cause of lyme borreliosis - Determine the frequency of infections in small rodents and hematophagous insects and determine areas where lyme borreliosis occurs endemic - Identify the most common reservoirs of diseases in the Republic of Croatia - Determination of seroprevalence in the horse population in searched areas will serve to assess the risk of infecting people in same areas

	- Correlate the appearance of lyme borreliosis in horses in a given geographic area with the occurrence of the disease in people from the same area - Investigate and identify risk factors which lead to an increased occurrence of this disease in the major host
Short description	During several years of implementation the program will enable to determine the frequency of infections in horses, small rodents and hematophagous insects and determine areas where lyme borreliosis occurs endemic. Based on these results, risk factors for people will be identified, which will ensure the application of quality biosecurity measures for people exposed to infection.
Activities/Action plan	1. Determine the frequency of infections in horses as sentinel animals 2. Determine the frequency of infections in rodents and hematophagous insects 3. Identification the most common reservoirs of diseases 4. Determine areas where lyme borreliosis occurs endemic 5. Correlate the appearance of lyme borreliosis in rodents in a given geographic area with the occurrence of the disease in people from the same area 6. Investigate and identify risk factors which lead to an increased occurrence of this disease in the major host 7. Ensure the application of quality biosecurity measures for people exposed to infection.
Resources/Products	**<u>Resources</u>:** **1.Material:** a) Collection and serological testing of 350 serum samples of horses b) sample of 600 small rodents per year (sampling with traps by the linear transect method) - Identification of rodent species, collection of hematophagous insects from rodents **2. Methods:** a) Serological testing of serum samples of horse by ELISA test b) Sampling small rodents with traps by the linear transect method c) Identification of rodent species d) Collection and identification of hematophagous insects e) Rodent section and organ sampling f) Molecular testing (RT PCR test) of samples of homogenized rodent ear g) molecular testing (RT PCR test) of group samples of homogenized hematophagous insects **<u>Products:</u>** 1. Establishing epizootic and epidemiological situation of lyme borreliosis in continental Croatia

	2. Determining risk factors for people exposed to lyme borreliosis 3. Application of quality biosecurity measures for people exposed to lyme borreliosis.
Impact	Continuous monitoring of epizootilogical and epidemiological situation of lyme borreliosis in continental Croatia, will enable the application of quality and timely preventive measures for protection of animal and human health.
Key words	Lyme borreliosis, *Borrelia burgdorferi*, epizootiology, epidemiology, prevention