WORKSHOPS
THURSDAY, OCTOBER 24th, 2024

WORKSHOP SESSION – 14:00-18:15, Day 1: COMPETENCE CENTER FOR CLIMATE CHANGE DIGITAL TWIN FOR EARTH FORECASTS AND SOCIETAL REDRESSMENT DTECLIMATE

A1 TPPA

Chairperson: Prof. Liviu Dan MIRON, PhD

To understand, anticipate and fight vector-borne emerging animal and zoonotic infectious diseases, it is necessary to develop an integrated One-Health approach considering the links between human health, animal health, and environmental health. This notably involves setting up a surveillance system combining human and animal surveillance (detection of human/animal cases and animal virus reservoirs), entomological surveillance (identification of vectors and the associated vector risk) and environmental monitoring).

VeBDisease Schedule		
14:00 – 14:10	Details regarding DTEClimate project evolution –	Mihai DATCU – Director project
14:10 - 14:20	TESTUL qPCR VS dPCR	Mihai Turcitu, Ionuț Pavel
14:20 – 14:30	ASSESSMENT OF SENTINEL-2 OBSERVATIONS FOR MONITORING THE LAKE IZVORUL MUNTELUI: PRELIMINARY RESULTS	Catalin-Andrei Miu, Mihai Datcu, Corina Vaduva
14:30 – 14:40	PREDICTING MOSQUITO HABITATS USING SENTINEL-2 DATA AND CLIMATE VARIABLES: PRELIMINARY INSIGHTS	Cristian Damian, Mihai Coca, Daniela Faur
14:40 – 14:50	THE VIROLOGY AS PART OF AN INTERDISCIPLINARY APPROACH	Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot
14:50 - 15:00	CURRENT SITUATION REGARDING TICK INFESTATIONS IN DOGS FROM TULCEA COUNTY	Raluca Mîndru, Gabriela-Victoria Martinescu, Larisa Ivănescu, Olimpia Iacob, Lavinia Andronic, Dumitru-Mihai Acatrinei, Liviu Miron
15:00 - 15:10	THE WORLD OF VIRUSES AND THEIR CRITICAL ROLES IN SHAPING ECOSYSTEMS, DRIVING EVOLUTION, AND IMPACTING HUMAN HEALTH	Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot

15:10 - 15:20	DIAGNOSIS OF HEARTWORM DISEASES TROUGH DETECTION OF ANTIBODIES	Anca Maftei, Larisa Ivănescu, Lavinia Andronic, Raluca Mîndru,Gabriela-Victoria Martinescu, Dumitru Acatrinei, Olimpia Iacob, Liviu-Dan Miron
15:20 - 15:30	HOW METAGENOMICS HAS REVOLUTIONIZED OUR UNDERSTANDING OF VIRUSES	Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot
15:30 - 15:40	THE EVOLUTION OF THE MAJOR VECTOR-BORNE DISEASES IN ROMANIA: CONSEQUENCES OF CLIMATE CHANGES	Gabriela-Victoria Martinescu, Larisa Ivănescu, Olimpia Iacob, Lavinia Andronic, Raluca Mîndru, Dumitru Acatrinei, Liviu-Dan Miron
15:40 - 15:50	DIVERSITY AND ECOLOGICAL IMPORTANCE OF VIRUSES IN THE MARINE ENVIRONMENT	Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot
15:50 - 16:00	ECOLOGY AND PATHOGENICITY OF SANDFLY VECTORS IN ROMANIA	Bianca-Lavinia Andronic, Larisa Maria Ivănescu, Gabriela-Victoria Martinescu, Raluca Mîndru, Liviu-Dan Miron
16:10 - 16:15	COFFEE BREAK	
16:15 - 16:25	VIRUSES THAT BENEFIT ANIMALS AND PLANTS	Serban Moroșan, Andreea Cozma, Anca Dascalu, Stephane Marot
16:25 - 16:35	MOLECULAR DETECTION OF BABESIA SPP. IN ASYMPTOMATIC SHELTER DOGS FROM CONSTANTA COUNTY-ROMANIA	Andrada Hermina Rusu (Lazăr), Larisa Ivănescu, Gabriela Martinescu, Raluca Mândru, Dumitru Acatrinei, Olimpia Iacob, Liviu-Dan Miron
16:35 - 16:45	THE VIRUSES THAT RESIDE IN THE HUMAN BODY: THE HUMAN VIROME	Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot
16:45 - 16:55	ESTABLISHING THE RISK OF WEST NILE VIRUS TRANSMISSION THROUGH MOSQUITO BITES USING THE DIGITAL PCR AND REAL-TIME PCR METHODS	Larisa Ivănescu, Gabriela Martinescu, Raluca Mîndru, Olimpia Iacob, Bianca Andronic, Dumitru Acatrinei, Liviu Miron
16:55 - 17:05	SEROLOGICAL EVIDENCE OF CRIMEAN-CONGO HEMORRHAGIC FEVER IN LIVESTOCK IN DANUBE DELTA: PRELIMINARY RESULTS IN 2022-2023 PERIOD	Serban Morosan, Daniel Maftei, Paul Bria, Andreea Cozma, Anca Dascalu, Luciana Crivei, Cosmin-Teodor Mihai, Cristina Hristodorescu, Smaranda Hristodorescu, Stephane Marot
17:05 - 17:15	PRELIMINARY DATA REGARDING THE INFLUENCE OF SOIL MOISTURE AND TEMPERATURE TO HARD TICKS ACTIVITY	Dumitru Acatrinei, Larisa Ivănescu, Alexandru Cătălin, Raluca Mîndru, Lavinia Andronic, Gabriela Martinescu, Liviu Miron

Scientific presentations :

14:10 – 14:20

TESTUL qPCR VS dPCR

Mihai Turcitu, Ionuț Pavel
Omnivet

14:20 – 14:30

ASSESSMENT OF SENTINEL-2 OBSERVATIONS FOR MONITORING THE LAKE IZVORUL MUNTELUI: PRELIMINARY RESULTS

Catalin-Andrei Miu, Mihai Datcu, Corina Vaduva
National University of Science and Technology POLITEHNICA Bucharest, Romania

Water, as one of the world's most critical resources, is deeply affected by climate change. The quality and availability of water sources are more and more threatened by the increasing frequency and intensity of droughts, heavy downpours or runoff of pollutants and sediment. Adaptive measures require inclusive monitoring of water bodies and their surrounding environmental conditions coupled with a comprehensive understanding of the phenomena that affect them. Fortunately, technological progress allows us to gather continuous information with minimum effort using satellite observations and weather station measurements. In this context, we present a preliminary study focusing on the analysis of Lake Izvorul Muntelui, also known as Lake Bicaz, the largest artificial lake on the interior waters of Romania servicing economic activities in sectors like energy, forestry, agriculture or tourism. The proposed approach relies on the assessment of bio-chemical parameters extracted from Sentinel-2 observations over the past decade. To this aim, a Satellite Image Time Series of Sentinel-2 was analyzed, detecting the loss or composition change of the Izvorul Muntelui lake water. To evaluate the spatio-temporal context we propose the use of causal modelling methods with incomplete data to assess the actual situation. The analysis is extended to the spatio-temporal context. By studying the behaviour of specific water quality indicators, anomalies not justified by the usual seasonal changes will be detected and further assessed in correlation with surrounding environmental conditions. Vegetation indices, canopy height, build up area indexes are learned from Earth Observation data and used to identify anthropogenic factors, while meteorological parameters from nearby weather stations are used to perform temperature and precipitation analysis of the time period, compute a Standardized Precipitation Index (SPI) and determine the risk of drought occurrence.

14:30 – 14:40

PREDICTING MOSQUITO HABITATS USING SENTINEL-2 DATA AND CLIMATE VARIABLES: PRELIMINARY INSIGHTS.

Cristian Damian, Mihai Coca, Daniela Faur

This paper presents a preliminary study aimed at predicting the potential habitats of Aedes albopictus mosquitoes using Sentinel-2 multispectral data and meteorological variables. The invasive species, known for transmitting vector-borne diseases such as dengue fever, is strongly influenced by environmental conditions including temperature, precipitation, and land cover. Our approach integrates Earth observation data with climate parameters to develop a machine learning model capable of identifying areas suitable for mosquito proliferation. By utilizing satellite data from Sentinel-2 and climate datasets like temperature and precipitation, we calculate various indices critical for understanding vegetation health and soil moisture—factors relevant to mosquito breeding sites. The combination of environmental data, wind patterns, and historical climate data allows for the modeling of mosquito spread in high-risk areas, with a specific focus on the Danube Delta region.

Preliminary results indicate that the model can effectively map potential habitats, providing insights for targeted surveillance and intervention strategies to mitigate the public health risks posed by these mosquitoes in the context of climate change.

14:40 – 14:50

THE VIROLOGY AS PART OF AN INTERDISCIPLINARY APPROACH

Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot

„Ion Ionescu de la Brad" Iași University of Life Sciences, Romania
Sorbonne University, INSERM, UMS 28, France
Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (iPLESP), Assistance Publique-Hôpitaux de Paris (AP-HP), Pitié Salpêtrière Hospital, Department of Virology, Paris, France

Virology, the study of viruses and viral diseases, plays a crucial role within an interdisciplinary approach to addressing complex health, environmental, and societal challenges. By integrating knowledge from various scientific fields, virology contributes to a more comprehensive understanding of how viruses interact with hosts, ecosystems, and populations.

14:50 – 15:00

CURRENT SITUATION REGARDING TICK INFESTATIONS IN DOGS FROM TULCEA COUNTY

Raluca Mîndru, Gabriela-Victoria Martinescu, Larisa Ivănescu, Olimpia Iacob, Lavinia Andronic, Dumitru-Mihai Acatrinei, Liviu-Dan Miron

„Ion Ionescu de la Brad" Iași University of Life Sciences, Romania

The importance of ticks in the context of One Health is well known, as they represent a significant vector for a variety of pathogens for both animals and humans. Climate change has influenced in a significant way the distribution of different species of ticks throughout the world, especially through the increasing temperature. The aim of this study was to determine a preliminary situation of tick distribution in dogs from Tulcea county, between May 2023 and June 2024. Feeding ticks were collected from dogs, during peak season of tick activity (May-July; September-November), summing up a total of 860 ticks of all biological stages (larva, nymph, male, female). Morphological identification was subsequently performed under a stereomicroscope and resulted in the differentiation of 3 genera: Rhipicephalus- the predominant genus, 94.06%, (n=809 individuals), Ixodes, 4.41%, (n=38 inviduals), Dermacentor, 1.51%. (n=13 individuals). These findings emphasize the presence of various genera of ticks, with a high potential of transmission of different pathogens, which pose a real threat to both human and animal health. The present study is a preliminary one, as further investigations will be carried out on the identified ticks in order to assess their pathogen load.

15:00 – 15:10

THE WORLD OF VIRUSES AND THEIR CRITICAL ROLES IN SHAPING ECOSYSTEMS, DRIVING EVOLUTION, AND IMPACTING HUMAN HEALTH

Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot
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The world of viruses is vast and diverse, influencing nearly every aspect of life on Earth. Although invisible to the naked eye, viruses are among the most abundant entities on the planet, outnumbering all other life forms combined. Found in every environment—from the depths of the oceans to the human body—viruses play critical roles in shaping ecosystems, driving evolution, and impacting human health.

15:10 – 15:20

DIAGNOSIS OF HEARTWORM DISEASES TROUGH DETECTION OF ANTIBODIES

Anca Maftei, Larisa Ivănescu, Lavinia Andronic,
Raluca Mîndru,Gabriela-Victoria Martinescu,
Dumitru Acatrinei, Olimpia Iacob, Liviu-Dan Miron
„Ion Ionescu de la Brad" Iași University of Life Sciences, Romania

Climate change is expected to have a significant impact on human and animal health worldwide, from the tropics to the temperate zones, so at the moment we are not facing an increase in vector-borne diseases. Among others, Romania has seen a significant increase in the number of filariasis in recent years, with an increase in cases in many regions of our country. Currently, filaria infections are diagnosed using several methods, including microscopy, serology and molecular methods. Taking into account the impact of climate change on vector-borne diseases, the regional expansion trend and the increasing trend in the number of cases at European level, the aim of this study was to increase knowledge on the diagnosis dirofilariasis through the detection of dirofilariasis antibodies in dogs. We provide an up-to-date update for south-eastern Romania. To achieve this goal, blood samples were collected from dogs in areas considered at risk, taking into account the geographic location and the way of movement of migratory birds. Therefore, 45 samples were collected from dogs with various diseases examined in farms, private homes and clinics in April-May 2024. The collection areas were chosen due to their proximity to the Danube River, the main stopover for birds heading from Africa to Europe, and therefore 4 locations in Tulcea County were selected: Niculitel, Beştepe, Sabangia and Tulcea. Blood samples were tested for the qualitative detection of antibodies against Dirofilaria immitis using the Anigen Rapid FeliCheck-3 test kit. For the qualitative detection of antibodies against Dirofilaria immitis in dogs, 6 samples (13%) out of a total of 45 samples tested were positive. Cumulative prevalence of D. immitis infection was 13%. This study highlights the importance of implementing heartworm surveillance and control programs in dogs in Romania

15:20 – 15:30

HOW METAGENOMICS HAS REVOLUTIONIZED OUR UNDERSTANDING OF VIRUSES

Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot
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Metagenomics, the study of genetic material recovered directly from environmental samples, has revolutionized our understanding of viruses, particularly those that were previously undetected or difficult to study. By analyzing entire communities of organisms (including viruses) in their natural habitats, metagenomics provides deep insights into the diversity, abundance, and ecological roles of viruses in various environments.

15:30 – 15:40

THE EVOLUTION OF THE MAJOR VECTOR-BORNE DISEASES IN ROMANIA: CONSEQUENCES OF CLIMATE CHANGES

Gabriela-Victoria Martinescu, Larisa Ivănescu, Olimpia Iacob, Lavinia Andronic, Raluca Mîndru, Dumitru Acatrinei, Liviu-Dan Miron
„Ion Ionescu de la Brad" Iași University of Life Sciences, Romania

Vector-borne pathogens impact both humans and animals; once established in a specific region, zoonotic diseases spread by vectors are considerably more challenging to control, particularly when wild animals serve as the natural reservoir. Prevention and control of vector-borne diseases are significantly affected by global warming. Therefore, increasing temperatures will contribute to the incidence rise of vector-borne diseases as well as the distribution of vectors. The processed data was taken from the National Institute of Public Health - National Centre for Communicable Diseases Surveillance and Control, as well as from the national literature. Therefore, 5 diseases of particular importance were introduced into the study. According to INSP-CNSCBT, between 2009-2022 the most confirmed positive cases were: Lyme Disease - 4918, West Nile Encephalitis - 722, Malaria - 336, Dengue Fever - 68 and Tick-borne Encephalitis (TBE) - 18. West Nile encephalitis entered into the national surveillance program in 1997. However, the highest prevalence was reported in 2018, when 277 cases of West Nile encephalitis were confirmed in humans in Romania. Cases of West Nile Encephalitis, as well as those of Dengue Fever, increased during 2018-2019, followed by a decrease, possibly related to the COVID-19 pandemic. Determining the level of risk of the most significant vector-borne diseases must be a priority because climate is a crucial factor. Understanding the dynamics of the vector-borne diseases and preventing epidemics in the upcoming years requires the support of local multidisciplinary research programs for integrated human, animal, and vector epidemiologic surveillance**.**

15:40 – 15:50

DIVERSITY AND ECOLOGICAL IMPORTANCE OF VIRUSES IN THE MARINE ENVIRONMENT

Serban Morosan, Andreea Cozma, Anca Dascalu, Stephane Marot

"Ion Ionescu de la Brad" Iasi University of Life Sciences, Romania
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Sorbonne University, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (iPLESP), Assistance Publique-Hôpitaux de Paris (AP-HP), Pitié Salpêtrière Hospital, Paris, France

Viruses play a critical role in the marine environment, where they are the most abundant biological entities, vastly outnumbering other microorganisms like bacteria, archaea, and phytoplankton. This immense diversity of marine viruses, particularly bacteriophages (viruses that infect bacteria), is vital to the functioning and balance of marine ecosystems. Their ecological importance is seen in their influence on nutrient cycling, population dynamics, and the evolution of marine organisms.

15:50 – 16:00

ECOLOGY AND PATHOGENICITY OF SANDFLY VECTORS IN ROMANIA

Bianca-Lavinia Andronic, Larisa Maria Ivănescu, Gabriela-Victoria Martinescu, Raluca Mîndru, Liviu-Dan Miron

„Ion Ionescu de la Brad" Iași University of Life Sciences, Romania

The risk of vector-borne disease transmission has been increasing due to climate changes observed in recent decades. While most studies on vector-borne diseases focus on identifying their etiological agents, fewer address the vectors responsible for transmission. These vectors are typically arthropods, such as mosquitoes, ticks, or sandflies. In the case of sandflies, information about these often-overlooked vectors is limited and difficult to find. Sandflies are the primary vectors of leishmaniasis, a widespread zoonotic disease caused by protozoa of the genus Leishmania. However, they are also responsible for transmitting other diseases, such as viral infections (e.g., Toscana virus, Pappataci fever) and bacterial infections (e.g., bartonellosis). In Romania, eight species of sandflies have been reported in various regions, contributing to an increased risk of disease transmission within the country. These species include Ph. perfiliewi, Ph. neglectus, Ph. balcanicus, Ph. papatasi, Ph. alexandri, Ph. sergenti, Ph. longiductus, and Sergentomyia minuta. Regarding the pathogenicity of sandfly species in Romania, indigenous cases of Toscana virus infection, Pappataci fever, and leishmaniasis have been identified in the country. Among the listed species, those responsible for transmitting leishmaniasis are Ph. neglectus, Ph. balcanicus, Ph. papatasi, Ph. perfiliewi, Ph. alexandri, and Ph. sergenti. Ph. perfiliewi is responsible for transmitting Toscana virus, while Ph. papatasi and Ph. perfiliewi are responsible for transmitting the phleboviruses that causes Pappataci fever. This review highlights the pathogenic potential of sandfly species identified in Romania, their ecology, and their significance for both public and animal health.

COFFEE BREAK
16:00 – 16:15

16:15 – 16:25

VIRUSES THAT BENEFIT ANIMALS AND PLANTS

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The viruses are often associated with disease, not all viruses are harmful. In fact, some viruses provide beneficial functions to animals and plants, enhancing their survival, growth, and adaptation. While viruses are commonly associated with disease, there are several examples where viruses benefit animals in various ways. These viruses can enhance survival, aid in immune regulation, and even support reproduction. plants in various ways, enhancing their survival, growth, and adaptation to environmental stresses.

16:25 – 16:35

MOLECULAR DETECTION OF *BABESIA SPP.* IN ASYMPTOMATIC SHELTER DOGS FROM CONSTANTA COUNTY-ROMANIA

Andrada Hermina Rusu (Lazăr), Larisa Ivănescu, Gabriela Martinescu, Raluca Mândru, Dumitru Acatrinei, Olimpia Iacob, Liviu-Dan Miron
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Babesiosis, a tick-borne disease caused by protozoan parasites of the genus Babesia, poses a significant health threat to dogs worldwide. In Romania, the incidence of this disease in shelter dogs has garnered increasing attention over recent years. This study was designed to evaluate the prevalence of Babesia spp. in shelter dogs from Constanța, a south-eastern county from Romania. In order to assess, in 2022, blood samples were collected from 244 asymptomatic stray dogs from a private shelter in Cernavodă, using EDTA tubes. The samples were tested using the Real-Time PCR technique (qPCR) to identify the genome of Babesia spp., which is a quantitative technique with high specificity and sensitivity. The results revealed that only 6/244 samples were positive (2.46%), in which the Babesia spp. genome was identified by qPCR and melting curve analysis. The CT value obtained in 5 out of 6 samples, showed an average parasite load of the detected pathogen, and in one out of 6 samples, showed a high parasite load of the pathogen. These results show the pressing need for improved tick control measures, increased public awareness and improved veterinary care to mitigate the impact of babesiosis on shelter dogs.

16:35 – 16:45

THE VIRUSES THAT RESIDE IN THE HUMAN BODY: THE HUMAN VIROME

Serban Morosan, Andreea Cozma,
Anca Dascalu, Stephane Marot
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The human virome refers to the collection of viruses that reside in and on the human body. This includes viruses that infect human cells (such as those causing diseases) and viruses that live in the human microbiome, particularly those affecting bacteria. The human virome plays a complex and sometimes beneficial role in health and disease.

16:45 – 16:55

ESTABLISHING THE RISK OF *WEST NILE* VIRUS TRANSMISSION THROUGH MOSQUITO BITES USING THE DIGITAL PCR AND REAL-TIME PCR METHODS

Larisa Ivănescu, Gabriela Martinescu,
Raluca Mîndru, Olimpia Iacob, Bianca Andronic,
Dumitru Acatrinei, Liviu Miron
„Ion Ionescu de la Brad" Iași University of Life Sciences, Romania

West Nile virus (WNV) is a re-emerging zoonotic pathogen which is a threat to both human and animal health. In Europe, there has been a marked expansion of WNV outbreaks in recent decades, causing more than 2000 symptomatic cases in 2018 alone. Winter temperatures between 2°C and 6°C were one of the strongest predictors of annual West Nile virus infections; a possible explanation for this result is that successful overwintering of infected adult mosquitoes (probably Culex pipiens) is the key to the intensity of outbreaks in the following year. The aim of the study was to compare the two diagnostic methods Real-Time PCR and dPCR, used in the detection of West NILE virus in mosquito vectors. Between April 2023 and June 2024, mosquitoes were captured from the Danube Delta area and from the north-eastern part of Romania in the city of Iasi, using the New Standard Miniature Incandescent Light Trap, model 1012. After morphological identification, mosquitoes were separated according to Culex pipiens species. Pools of 30 mosquitoes per pool were made, being tested for the presence of the West Nile virus. The advanced dPCR method was used to detect West Nile virus. Digital™ PCR (dPCR™) is an innovative technology that provides ultrasensitive nucleic acid detection and absolute quantification. It is very effective for resolving low-abundance targets, such as very small amounts of virus inside mosquito vectors.

16:55 – 17:05

SEROLOGICAL EVIDENCE OF CRIMEAN-CONGO HEMORRHAGIC FEVER IN LIVESTOCK IN DANUBE DELTA: PRELIMINARY RESULTS IN 2022-2023 PERIOD

Serban Morosan, Daniel Maftei, Paul Bria, Andreea Cozma, Anca Dascalu, Luciana Crivei, Cosmin-Teodor Mihai, Cristina Hristodorescu, Smaranda Hristodorescu, Stephane Marot

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Crimean-Congo Hemorrhagic fever (CCHF) is an important zoonotic disease transmitted to humans both by tick vectors and contact with fluids from an infected animal or human. Although animals are not symptomatic when infected, they are the main source of human infection. This study was started with the aim of determining the prevalence of CCHFV and WN virus in domestic ruminants and its potential vector ticks in Delta Danube region. Seroprevalence studies of Crimean-Congo Hemorrhagic Fever are vital for understanding the epidemiology of the disease, assessing the impact of public health interventions, and identifying areas at higher risk of transmission.

17:05 – 17:15

PRELIMINARY DATA REGARDING THE INFLUENCE OF SOIL MOISTURE AND TEMPERATURE TO HARD TICKS ACTIVITY

Dumitru Acatrinei, Larisa Ivănescu, Alexandru Cătălin, Raluca Mîndru, Lavinia Andronic, Gabriela Martinescu, Liviu Miron

"Ion Ionescu de la Brad" Iasi University of Life Sciences, Romania
ASAS - The Research and Development Station for Viticulture and Winemaking, Iași

Hard ticks are known for their incredible resistance to harsh environmental conditions, starvation and a huge vector potential. These small creatures can find a suitable host using smell and/or optic detection and are very tenacious in climbing when reaching a host. All stages feed with blood from vertebrate hosts and the entire process is complicated and takes from several hours to several days, depending on the stage, size, sex and host. Feeded adult females search for a suitable place to lay eggs, the number of eggs can vary from 1000 to 18000 depending on the species, size and how much blood they ingested. In our study we determined the air temperature, superficial soil temperature and moisture and the quantity of rain that fell monthly in the last two years in a specific region from Iasi County. In the same period, we collected hard ticks from vegetation by flagging & dragging and identified the species, stage and sex of each tick specimen. Analyzing the raw data, we can make positive correlations between the high number of hard ticks harvested in April 2023 and the rainfalls or soil humidity as well as the lack of precipitations linked with hard ticks disappearance for a long period of time in the summer and fall of 2024.