

INSECTS AS RESERVOIRS AND VECTORS OF ANTIMICROBIAL RESISTANCE

Lyudmyla SYMOCHKO^{1,2,3}, Olena DEMYANYUK³, Vitaliy SYMOCHKO¹

1- Uzhhorod National University, Uzhhorod, Ukraine;

2- University of Coimbra, Coimbra, Portugal;

3- Institute of Agroecology and Environmental Management, Kyiv, Ukraine

Preserving global food safety takes precedence in the realm of public health. In our quest to effectively combat foodborne diseases, it is imperative that we confront critical issues. Notably, insects at the forefront, wield immense influence in the spreading of foodborne pathogens, encompassing bacteria, fungi, and even viruses. During our research, we isolated pathogenic and conditionally pathogenic bacteria from the surfaces of synanthropic insects. After identification, these bacteria were subjected to antibiotic resistance testing, revealing some as multidrug-resistant. *Staphylococcus aureus* exhibited methicillin resistance in 36.1% of cases, while *Escherichia coli* demonstrated resistance to cefazolin (48.2%) and fluoroquinolone (25.3%). *Salmonella enterica* displayed resistance to ampicillin in 51.4% of cases and tetracycline resistance in 38.6% of instances. These antibiotic-resistant bacteria have the potential to be disseminated by insects, posing a significant risk to human health. Our findings underscore the pressing need to address the role of insects in food safety and the burgeoning menace of antimicrobial resistance.