SUNSHINE AGRICULTURE
e-Newsletter

ISSN (E): 2583 – 0821

Sun. Agri.:e- Newsletter, (2023) *3*(12), 40-41

Article ID: 269

Importance of Ecotoxicological Field Investigation

Hiteshwar Singh Yadav*, Neha, M. Dinesh, Jigarji C. Thakor and Pawan Kumar

Division of Pathology, ICAR-Indian Veterinary Research Institute, U.P, India

Open Access

Available online at
http://sunshineagriculture.vitalbiotech.org/

Article History
Received: 23. 11.2023
Revised: 27. 11.2023
Accepted: 4. 12.2023

INTRODUCTION

Ecotoxicology is the study of the effects of toxic chemicals on biological organisms, especially at the population, community, ecosystem, and biosphere levels. Ecotoxicology is a multidisciplinary field, which integrates toxicology and ecology. The ultimate goal of this approach is to be able to reveal and to predict the effects of pollution within the context of all other environmental factors. Based on this knowledge the most efficient and effective action to prevent or remediate any detrimental effect can be identified. In those ecosystems that are already impacted by pollution ecotoxicological studies can inform as to the best course of action to restore ecosystem services and functions efficiently and effectively. Ecotoxicology differs from environmental toxicology in that it integrates the effects of stressors across all levels of biological organisation from the molecular to whole communities and ecosystems, whereas environmental toxicology focuses upon effects at the level of the individual and below. Disease is one of many factors affecting the viability of wild populations. In a balanced ecosystem, most populations survive with low levels of disease or with periodic epidemics. However, as wildlife populations become more dense from habitat restriction, the risks of a catastrophic epidemic within wildlife populations increase. Transmission of diseases between wild and domestic animals also becomes more likely. To determine the disease risks to a population, the causes of morbidity and mortalities in that population must be identified.

ISSN (E): 2583 – 0821

When appropriate samples and accurate written and photographic records are taken, the cause of an epidemic can be determined in most cases. Risk assessment also includes an understanding of the natural history of infectious diseases in that environment, including the history of previous epidemics. Many wildlife disease epidemics affecting valuable wildlife resources or livestock have gone undetected because appropriate samples were not collected for diagnostic testing from animals that died during the epidemic.