

GUEST EDITORIAL

Food Safety and Biosecurity

A. K. Goel

Defence Research & Development Establishment, Jhansi Road, Gwalior - 474 002, India

**E-mail: akgoel@drde.drdo.in*

Food, cloth and shelter have been the three basic amenities of human being since ages. The 21st century is well known for the golden era of science and technology. Despite of tremendous progress in agriculture, medical sciences and food processing, still about 770 million people (about one in every nine people) suffer from chronic hunger globally. About 600 million people (about one in every ten people) fall ill due to food borne disease and about 4,20,000 people die every year due to food borne diseases. Hence, food availability and food safety becomes an area of paramount importance. Biosecurity in reference to food safety is also equally important because of burgeoning cross border trade globally. A major thrust is being given on the integrated surveillance to monitor and manage the risks along the entire food chain. Hence, the current issue of Defence Life Science Journal is focussed on the *food safety and biosecurity*.

Overall, the living standard of people has improved over the years due to tremendous developments in the field of science and technology. The modern tools of genetic engineering have paved the new ways for enhanced crop production with better quality to meet out the food requirement of the world's growing population. However, it is very important to ensure the food safety to achieve this goal. There are a lot of concerns about the genetically modified crops and microorganisms, hence their long term impacts on the environment need to be assessed scrupulously. As foodborne diseases pose a heavy toll on the health and economy of world, hence, it is of utmost importance to maintain the sanitary practices in food chain to obviate the microbial contamination and food poisoning. The term biosecurity, in general is applied to prevent the loss, theft or escape of potentially dangerous pathogens from the research laboratory which can cause public health harm. However, in reference to food safety, biosecurity is the imperative approach to ensure food safety, which interlinks health, environment, security and trade. Thus, biosecurity is a holistic system covering food safety, zoonoses, transboundary introduction of diseases and pests, and release of living modified organisms (LMOs) and their products (e.g. genetically modified organisms or GMOs). In this era of globalisation, food pathogens during transboundary movements can pose high risk to food chain in the new regions where they never existed. However, the adequate biosecurity management at national and international level can ensure the food safety during the international trade.

The potential biothreat agents also pose a potential threat to global community. Several of these pathogens can be part of food chain. Hence, proper management of biosecurity as well as rapid detection and diagnostic systems are also required for the society. Moreover, it is very important to make people aware about the food safety and biosecurity. Therefore, a special issue of *Defence Life Science Journal* (DLSJ) has been dedicated to the Food Safety and Biosecurity. *Defence Life Science Journal* (DLSJ), a peer reviewed journal started on initiative of life science cluster of DRDO to bring forward the latest research being done in this area globally. The journal is published by Defence Scientific Information & Documentation Centre (DESIDOC) on behalf of Defence Research & Development Organisation (DRDO). In this issue, we have included articles covering food safety and biosecurity, food processing, food preservation, biological control, biodegradation of dyes, detection and diagnosis of botulinum toxin and *Brucella melitensi*, and purification of toxins.

It is an honour for me to serve as the Guest Editor of this Special Issue. I sincerely acknowledge all the authors for their outstanding and overwhelming contributions. I am grateful to the Editor-in-Chief, the Editorial Board, and the staff of DLSJ for their support in realising the special issue well on time.

I congratulate the entire editorial team and the publishers of DLSJ being listed in UGC-CARE Reference List of Quality Journals (UGC Approved List of Journals).

Dr Ajay Kumar Goel, received his PhD (Microbiology) from CCS Haryana Agricultural University, Hisar in 1999. Presently he is working as Sc 'F' and Head, Bioprocess Technology, DRDE, Gwalior, India. He has been recipient of several awards including AMI Young Scientist Award, DST Young Scientist Research Fellowship, DRDO Laboratory Scientist of the Year Award, DRDO Young Scientist Award, DBT Overseas Associate Fellowship, DRDO Technology Group Award-2006 and 2016, DRDO Technology Day Oration Award, and DRDO Science Day Oration Award. He has participated several times in international meetings of Biological Weapon Convention (BWC) held at United Nations Office at Geneva, Switzerland. He has presented his work in various international conferences at California, Geneva, Paris, Rio de Janeiro, Penang and Amsterdam. He has more than 100 research paper, 6 patent, one book, and radio talks. His current interests include development of detection and protection systems for potential biothreat agents.