

## ABOUT THE BOOK....

This hand book on Avian Influenza is a small effort to highlight the different facets of avian influenza from various perspectives. The handbook provides some answers on AI and the impact it would cause on poultry and human health. The book will be handy reference for veterinarians, medicos, constituents of poultry industry, public health, quarantine officers (airports/harbors), reservoir managers, bird sanctuary officials, zoos officials, bird watchers, wild life authorities, lake authorities, forest officials, research Institutes, state animal husbandry and central government, agricultural universities, veterinary universities and pharmaceuticals, drug manufacturing companies and poultry farmers who need relevant AI related information. The book can also be as a guide to control any such dreadful viral disease affecting birds.

Avian Influenza has always confused poultry personnel and others because of the close similarities of the symptoms and gross pathology. Hence thorough investigation has to be carried out, based on the clinical symptoms, gross pathology, and mortality pattern using trained personnel and recognized laboratories. If the disease is suspected to be AI (symptoms, clinical signs, mortality patterns, and postmortem examination), immediate biosecurity measures should be taken to protect any nearby poultry populated areas. Steps should be taken for proper disposal, biosecurity, culling of affected birds, and depopulation needs to be conducted on a war footing. All government agencies, veterinary colleges and concerned authorities, States, National Laboratories should be involved for advice and help.

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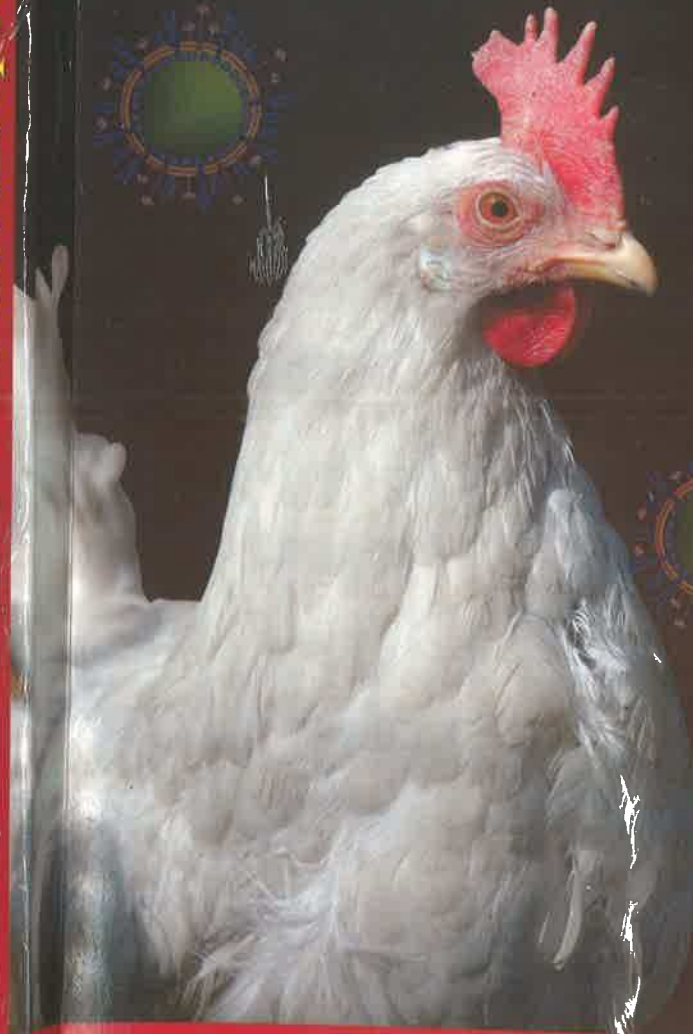
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# AVIAN INFLUENZA (BIRD FLU)

- Dr. K. Mohan

AVIAN INFLUENZA (BIRD FLU)



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**AVIAN INFLUENZA  
(BIRD FLU)**

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## A VETERINARIANS OATH

**B**eing admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health and welfare, the prevention and relief of animal suffering, the conservation of livestock resources, the promotion of public health and the advancement of medical knowledge. I will practice my profession conscientiously, with dignity and in keeping with the principles of veterinary medical ethics. I accept as a lifelong obligation the continual improvement of my professional knowledge and competence.

## Preface

**E**ffective control of infectious disease (especially acute variants) is necessary to ensure economic success in any livestock based industry. With the rapid expansion of the poultry industry all over the world, the need of the hour is effective health cover, disease control, excellent bio-security and epidemiological updates. Disease has no boundaries with mass movement of people all over the world within few hours. Disease is as old as life itself adhering to the 'Eat or be Eaten' adage. Avian Influenza has reared its ugly face several times since the last few decades and is always a threat to both the poultry industry as well as humans. AI is being considered as one of the most dreadful diseases to afflict this planet due its antigenic alteration (mutation) and ability to infect other species. Historical documentation of the zoonotic affects and AI's pandemic episodes support this view. Human to human infections have not been well established.

Zoonosis being of public health importance is a serious concern as regards Avian Influenza as it not only causes serious health hazards among poultry workers, traders, poultry processors, and veterinarians. Public health officials have to be aware of the disease manifestations in humans as well as preventive/management/treatment measures.

This hand book on Avian Influenza is a small effort to highlight the different facets of avian influenza from various perspectives. The handbook provides some answers on AI and the impact it would cause on poultry and human health. The book will be handy reference for veterinarians, medicos, constituents of poultry industry, public health, quarantine officers (airports/harbors), reservoir managers, bird sanctuary officials, zoos officials, bird watchers, wild life authorities, lake authorities,

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I wish to add here that research and its information on AI is pouring from all over the world with special reference to its incidence, control measures, research in vaccine production, epidemiological, surveillance, viral studies, and related areas. The book highlights in brief the varied disciplines, preventive and control measures to combat infectious diseases of poultry origin. It also gives reference to reading material, (books, proceedings, symposia videos etc.) for more details and updates including the websites related to Avian Influenza. There is a deep worldwide undercurrent of concern about emerging diseases and need to develop a comprehensive, global plan. The notes and appendices in this book are from varied sources, websites from the internet, direct contact, media, webinars, and experts in avian and human diseases from many parts of the world.



## Acknowledgements

I would like to acknowledge friends, ex-colleagues, and relatives, who inspired me to write this book on Avian Influenza.

I am grateful to my revered teachers who were great veterinarians of this century, and consider myself to be fortunate to be their student. To mention a few, Late Dr. E L. McCune (Ex. Prof and Head of Vet Medical Diagnostic Lab and State Poultry Pathologist, Missouri, U.S.A), Dr. G. C. Shelton (retired. Dean School of Vet Medicine Texas A & M, University, USA). Dr. Ben Pomeroy (retired. Prof and Head University of Minnesota), Dr. Sven Rubarth (retired, Dean School of Veterinary Medicine, Stockholm, Sweden), Dr. Nils Olf Lindgreen (State Poultry Pathologist, Sweden), Dr. James T. Barrett (immunologist, School of Medicine, University of Missouri, U.S.A.), Mr. N. Carlson (poultry pathologist, Canada). I will be failing in my duties, if I don't thank my beloved father Dr. P. B. Kuppuswamy who was my teacher in both my undergraduate and post graduate studies.

I am grateful to my ex-employers - Mr. Gurdip Singh, Mr. Vinod Kapur, Mr. Shashi Kapur, Major Kapur, David Lobo, Mr. Saifulla, Mr. Subram Setty, Mr. Nand kumar, Mr. Gilbert Dzouza, Mr. Stanley Paulis for their good wishes and their blessings.

I thank my wife Vasantha, daughter Priya, son Praveen, son in law John, daughter-in-law Vidya, and grandson Arjun for encouraging me in this venture.

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Finally thanks to Mr. Vyas M.K, Hind Publications for publishing this book.



## Foreword



I am extremely happy to note that Dr.K.Mohan, an avian pathologist with his vast experience in Poultry diseases is publishing a book on Avian/Bird Flu. I am convinced that the book will be very useful to the professionals engaged in both the poultry as well as human health domain. Avian flu has been a constant threat and now reoccurs more often in South East Asia and in many parts of the world. I hope that this book helps in educating and countering the threat of Avian/ Bird Flu and I compliment the author.

**Prof Suresh S Honnappagol**  
Vice Chancellor,  
Veterinary University Bidar,  
Karnataka, India.

Dr. G. C. Mohanty. He was also responsible for teaching poultry disease and management to National Diploma students (NDPH) and Postgraduate students in Poultry Science and Pathology (MVSc). In 1976, he was awarded the Canadian Commonwealth Fellowship and did his research on Malabsorption due to *Eimeria acervulnia* (Coccidia) infections in poultry in Canada.

His doctoral research was on Malabsorption due to *Eimeria acervulnia* (coccidiosis in poultry), where he used the TLT (Triple Lumen Technology) for the first time in poultry apart from the Electron microscopic and other diagnostic methods. He has published about more than 30 papers in national and international journals. He has attended national poultry meets, seminars, workshops all over the world and traveled to more than 42 countries. He has been associated with poultry development in Maldives and Sri Lanka. He is also the President of Ostrich Association of Karnataka (FOTO) and has been offering expertise in Agro, Animal Husbandry, Poultry Egg Powder Plants (Vetting), Quail, Ostrich and Emu farming in India and USA.

Since 1980, he has been an advisor, technical manager, consultant and general manager to number of poultry breeding companies, pharmaceuticals, and Government of India, and formulated a number of drugs in allopathic and Ayurvedic medicines for poultry. His clients included Maldives Poultry Organization, CMC (India), KAIC, India Investment Centers and TIFAC (Ministry of Science and Technology) where he developed Aeroponic technology for growing medicinal plants like Ginseng and Coleus. His work on Aeroponic was presented at the Indian Science Congress in 2003 as a Poster Presentation by the Ministry of Science and Technology for an excellent model for cultivating medicinal plants. He managed his own broiler commercial and parent stock poultry farm for 15 years.

He is a keen sportsman represented Magadh University in cricket. His hobbies like include travelling, gardening, numismatics, coin, feather and egg collections. He is actively involved in social activities like the Elderly Forum, Senior Citizens, and Disabled People. He is also a life member of Non Resident India Parent association of Karnataka, The Orchid Society of Karnataka, Mushroom Society of India (Solan, H.P).

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