

Preface

Microorganisms have a marvellous capacity to produce secondary metabolites which frequently have interesting structures and diverse biological activities. However, the discovery in 1960 of the Turkey-X disease in the United Kingdom can undoubtedly be credited for initiating the present renaissance of interest in mycotoxin research. The aflatoxins, a group of hepatocarcinogenic mycotoxins, produced by the common fungi Aspergillus flavus and A. parasiticus became established as the etiological agents. In 1985, on the 25th anniversary of that historic event, there is still no abatement of that interest. The choice of the aflatoxin_{B₁} structure as the logo of the Sixth IUPAC International Symposium on Mycotoxins and Phycotoxins, held in Pretoria from July 22-25, 1985, was therefore appropriate.

Since 1960 the subject of mycotoxicology has developed enormously and attracted much attention from the scientific community. Many novel mycotoxins were isolated and characterized, e.g. ochratoxins, cyclopiazonic acids, trichothecenes, ergochromes, cytochalasans, neurotropic mycotoxins, dioxopiperazines and epipolythiodioxopiperazines, phomopsins, zearalenone, patulin, rhizonin, and the fusarins. These investigations required the applications of advanced physico-chemical techniques and also stimulated advanced studies on the synthesis, biosynthesis, and biochemical mechanism of action of the toxins. The important role of mycotoxins as etiological agents in outbreaks of foodborne diseases of humans and animals is now well appreciated.

Mycotoxin and phycotoxin research is concerned with toxins that contaminate foods and feeds. The investigations are, therefore, multidisciplinary in nature and the contributions to this Symposium exemplify this broad spectrum of interests, covering facets such as etiology, microbiology, analysis, biochemistry, organic chemistry, biosynthesis, toxicology, and pathology.

These natural toxicants are ubiquitous, knowing no political or geographical barriers, and can be credited with catalyzing laudable international scientific collaboration. It is hoped that this publication makes a contribution to this young and growing science. I am most grateful to the eminent scientists who collaborated in making this publication possible.

The keynote address and invited lectures (45) will be published by Elsevier Science Publishers, Amsterdam in a book entitled Mycotoxins and Phycotoxins. This book contains the keynote address of Clifford W. Hesseltine, entitled The Global Significance of Mycotoxins, and contributions on the following subjects: mycology and algology by W.F.O. Marasas, C.J. Rabie and W.E. Scott; fungal genetics and biosynthesis by J.W. Bennett, J. Lacey, H. Seto, T.J. Simpson, J.C. Vederas, and L.O. Zamir; structural chemistry and physical techniques by J.W. Apsimon, R. Greenhalgh, B.B. Jarvis, D.P. Botes, J.A. Edgar, S. Natori, R.D. Plattner, M. Potgieter, A.A. Tuinman, and W.H. Watson; synthesis of the toxins by C.W. Holzapfel, M. Isobe, and T. Suami; analysis of the toxins by F.S. Chu, S.J. Kubacki, P.M. Scott, J.J. Sullivan, and P.G. Thiel; detoxification of contaminated materials by A. Prevot; biochemical mechanism of action of the toxins by W.W. Carmichael, K. Hult, R. Kfir, K.H. Ling, P.G. Mantle, C.J. Mirocha, A.C. Pier, and A.A. Stark; and a number of contributions on the important role of mycotoxins in human and animal health by D.P.H. Hsieh, L. Stoloff, D.L. Park, S.J. van Rensburg, J.A.W. Coetzer, R.J. Cole, T.S. Kellerman, N.P.J. Kriek, and P.E. Nelson.

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