PERSPECTIVES IN MYCOLOGICAL RESEARCH

VOL. I

S.K. HASI
R.C. RAJA
S.M. SING

INTERNATIONAL BIOSCIENCE SERIES
VOLUME XII

PERSPECTIVES IN MYCOLOGICAL RESEARCH
(VOLUME - I)

(Prof. G.P. Agarwal Festschrift Volume)

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PREFACE

'Perspectives in Mycological Research' a festchrift in two Volumes is brought about in honour of Prof. G.P. Agarwal *former Head, Department of Biological Sciences and Dean, Faculty of Life Science, Rani Durgavati University, Jabalpur* on his suprannuation and in humble dedication to his outstanding researches in the field of Mycology, Plant Pathology and Microbiology. All the contributors of the volume are closely associated with Prof. Agarwal.

A symposium on Perspective in Mycological Research was also organised to felicitate Prof. G.P. Agarwal on October 19th & 20th, 1986 by his students and well wishers. The present volume (Vol. I) includes the proceedings of the symposium. It incorporates original research papers on various aspects of mycology and covers important areas like, taxonomy of fungi, physiology of fungi, aerobiology, medical mycology, mycology in biotechnology and mycology in polluted environment. The present volume contains 38 research articles in various fields to benefit all mycologists of the country and abroad in both teaching and research.

The Editors are thankful to all the delegates/contributors for their authorative and thought provoking articles which were presented during the symposium. Financial help given by Department of Science & Technology, New Delhi and Madhya Pradesh Council of Science & Technology, Bhopal to organise the symposium is gratefully acknowledged.

Editors are also thankful to their colleagues Dr. S.C. Pathak, Dr. M. Oommachan, Dr. K.S. Verma and to others staff members and students of the department for giving all the help in various manner in preparation of the volume, and to M/s. Today & Tomorrow's Printers and Publishers for undertaking the publishing work of this volume.

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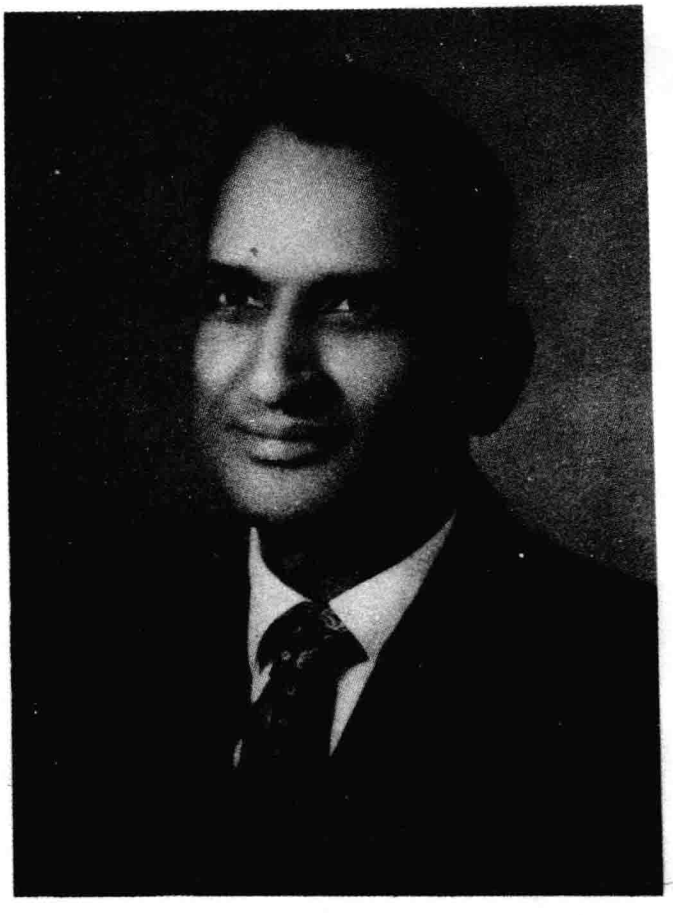

PROF. G.P. AGARWAL

PROF. G.P. AGARWAL : A BIOGRAPHY

Professor G.P. Agarwal, was born on 10th July, 1926 at Karwi (Banda), U.P. He obtained his M.Sc. in Botany in 1951 and D. Phil. in Mycology and Plant Pathology in 1955 from the University of Allahabad. For his D. Phil. degree he worked under the renowned and eminent Plant Pathologist, Professor R.N. Tandon.

Professor Agarwal started his career as Lecturer in College of Agriculture at Nagpur in 1955. A year later he moved to Jabalpur and joined Mahakoshal Mahavidyalaya (Now Government Science College). In 1961 he was promoted to the Post- of Asstt. Professor and in 1967 he became Professor of Botany. In 1968 the teaching department of Botany in University of Jabalpur was started and Professor Agarwal became its founder Head of the Department. In the year 1979 the present department of Botany was converted into department of Biological Sciences and Professor Agarwal became the Dean, Faculty of Life Science, the post which he graced till his retirement.

Professor Agarwal is a man of exceptional qualities. He is an excellent teacher, a dedicated researcher, balanced administrator, and with his intellectual superiority, courtesy and generosity he has won many friends and admirers throughout the country. His lucidity in teaching and expression promoted many of his students to take up to teaching profession. With his original and practical vision he built this department. He laid the foundation of the department and under his dynamic leadership in a short span of time, the department has excelled in teaching and research activities. The teaching of M.Sc. in Botany was started in 1973. It was again Professor Agarwal's initiative and foresightedness that he introduced teaching of Microbiology, as a special paper in M.Sc. Botany in 1973. M.Sc. Biological Sciences was started in 1980 and M.Sc. in Microbiology in 1983.

Prof. Agarwal is known for his research contributions in Mycology, Plant Pathology and Microbial Physiology. There has been a regular flow of his research contributions since 1953 onwards. He is author of more than one hundred research papers published in leading national and international journals of repute. Professor Agarwal pioneered the study of phytopathogenic fungi of Jabalpur and published series of papers under the caption "Fungi causing Plant diseases at Jabalpur'. He described many new taxa and new records for the country e.g. *Pycnothera cordiae* gen et sp. nov., *Cercocladospora adinae* gen et sp. nov., *Beharia smilacis* sp. nov., *Deigthoniella jabalpuriensis* sp. nov., *Curvularia verruciformis* sp. nov., *Dactylaria indica* sp. nov., *Sporotrichum xylophila* sp. nov. All fungi described upto 1971 have been compiled and published by him as "Fungi of Jabalpur". A new genus *Agarwalia terricola* gen et sp. nov., was established in recognition of his contribution in the field of Mycology.

Prof. Agarwal's thrust has also been on fungal physiology, Physiology of Parasitism, Medical Mycology and Aerobiology. He and his co-workers have investigated various aspects of physiology and nutrition of phytopathogenic fungi to understand their virulence, survival and adaptability. Nutritional physiology of several pathogens has been worked out by him. Studies on metabolic changes in host due to fungal infection were also investigated. He suggested that disease resistance in fruits largely depends on their phenolic level.

In his presidential address to M.P. Vigyan Academy he emphasised the significance of pectic enzymes in pathogenesis and reported a wise variation in behavior of fungi in pectic enzyme production. In most instances the enzyme was produced inductively. He has concluded that the cultural conditions and length of incubation period of pathogen greatly influences the nature and quantity of enzyme.

His work on production of toxic metabolities by phytopathogen indicated that the thermostable toxic principle produced by the pathogen could cause permeability changes in the host tissues leading to cellular death.

Prof. Agarwal also initiated the study of mycotic infections in human beings and has contributed substantially to this important area of study. Studies on fungal diseases of skin and nails of man, mycotic keratitis (fungal infection of eye), Aspergillosis and Cryptococcosis in bronchopulmonary disorders have been his major fields of stress. The work is being carried further by his students. In the field of aerobiology his emphasis has been fungal aerospora. The work mostly pertained to identifying the air borne plant pathogens and to provide adequate information about disease forecasting.

Currently, he and his co-workers are busy with studies on the insect pest control through entomogenous fungi (biological control) of *Teactona grandis* and *Cicer arietinum.*

Prof. Agarwal is principal investigator of number of projects undergoing in the department. Some of which are as follows:

1. Fungal deterioration of wheat grains and loss in viability in relation to storage method in rural areas of Madhya Pradesh (U.G.C.).

2. Studies in the involvement of Toxins in *Alternaria* blight of Garlic (*Allium sativum* L.) (C.S.I.R.).

3. Studies on entomogenous fungi of M.P. with special reference to biological control of insect pest of crops and forest nursery (U.G.C.).

4. Biological control of insect pest of teak *(Tectona grandis)* through entomopathogenic fungi (C.S.I.R.).

More than forty students have been awarded Ph.D. degrees and one D.Sc. degree under his supervision.

Prof. Agarwal has also published a book entitled 'Micro-organisms in the laboratory' in collaboration with Dr. S.K. Hasija and has edited a symposium volume entitled "Physiology of Parasitism" in collaboration with Prof. K.S. Bilgrami. He has several honours to his credit. He is founder President of Society of Tropical Forestry Scientist, President of Botany Section of M.P. Vigyan Academy, a Fellow of the National Academy of Sciences, India, Fellow of Indian Phytopathological Society of India and Fellow of Indian Botanical Society.

In addition, Prof. Agarwal was also associated as member of editorial boards of Indian Phytopathology and Biological Bulletin of India, as associate editor of Bulletin of Pure and Applied Sciences, as councillor for the society of Mycology and Plant Pathology and Society for advancement of Botany.

Prof. Agarwal also took active part in extra-curricular activities. He had been an outstanding sportsmen and represented University of Allahabad as captain of Volleyball team during his college days. He served as Chairman of Sports Committee of Rani Durgavati University, Jabalpur for several years, was hostel Warden, and also Proctor and treasurer of the University students union and connected with many social organizations of the town.

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