



WEEDY
AQUATIC PLANTS:
THEIR UTILITY, MENACE AND MANAGEMENT

O. P. Gupta





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Title cover plate: Close-up of an infestation of waterhyacinth severely attacked by its bioagent, *Neochetina eichhorniae* Warner

Inside cover figure: ***Ipomoea carnea* Jacq.**

“The first concern of the aquatic weed scientists is that the public, alongwith many political leaders, do not show any great concern over the crisis created by aquatic weeds, particularly the exotic species. For whatever reasons, they are in a state of denial. But what use can we make of a lake covered entirely with topped-out hydrilla or with mat of waterhyacinth. We can't fish it. Recreational boating or swimming is impossible. Even irrigation and flood control systems are adversely affected. In addition, the native aquatic biodiversity is being displaced by the exotic species and the water-side property values are being lowered.” Think!

[From: Aquaphyte, USA]

DEDICATED TO MANAGERS OF
WATERBODIES



WEEDY
AQUATIC PLANTS:
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MANAGEMENT

— A Reference Cum Text Book —

O. P. Gupta



Agrobios (India)

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Preface

The objective of this book is to introduce to readers the (i) multifarious problems created by excessive growth of aquatic plants in our canals, lakes, ponds, drainage channels, lowland paddies, and other aquatic situations, leading to huge economic losses to the Nation year after year and (ii) various options available with us to curb these to within harmless levels. Thus far, these aquatic plant management options have been developed and used on field scale only in certain advanced countries of the world. We, in India, have yet to think about a constructive strategy to deal with this enormous problem by suitable Research and Development (R&D) procedures.

Presently, the research on aquatic weed management conducted in India has been largely based on laboratory studies, with little, if any, long term field-testing and development in the problematic waterbodies. In other words, the combined R&D efforts are completely lacking, except in 1-2 cases of biological control of specific aquatic weeds. This is a very unfortunate state of affairs. We require in the country 2-3 specialised centers for research and development each in (i) biological control, (ii) mechanical control, and (iii) mass utilization of aquatic weeds, supported by several field testing stations in different Agricultural Universities. The present book provides adequate subject matter to make a concrete beginning on these lines in the country.

Further, it seems no Agricultural University in the country offers even one course on the management of excessive aquatic plants. It is high time that a beginning is made in creating a course on this burning problem so that at least some students get oriented towards devoting to aquatic weed management in right earnestness. The present book provides the latest text available for formulating and conducting a post-graduate level course on aquatic weed management.

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Bhubaneswar for providing information on aquatic weed flora and problems of respective states.

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O.P.G.

About the Author

Dr. O. P. Gupta was born on Sept., 19, 1933 at Delhi. He obtained his Ph.D. degree in Agronomy, with research specialization in Weed Science, from Indian Agricultural Research Institute, New Delhi in 1961.

Dr. Gupta started his career as Assistant Professor of Agronomy at G. B. Pant Agricultural University, Pant Nagar (U.P.) and then shifted to Rajasthan Agricultural University, Udaipur (now at Bikaner) as Associate Professor of Agronomy in 1966.

During his service period, Dr. O. P. Gupta visited USA in 1970 for his Post-Doctorate training in Aquatic Weed Management where he visited and worked at several aquatic weed centers. Later he visited Nepal and Libya as Visiting Professor of Agronomy, and was also invited by the Government of Afghanistan in the same capacity. Before his retirement in 1993, Dr. Gupta rose to the rank of Director Research. Soon thereafter he was offered the position of Weed Specialist in a Canadian Project (CIDA) operating in the Chambal Canal Command Area at Kota (India).

Dr. O. P. Gupta has spent his life time in pursuing research on Weed Management, and has published over 60 papers and three books on the subject, including the one on Aquatic Weed Management. Also, he directed a great part of his service period in teaching courses in Weed Science at the Post Graduate and Doctorate level and guiding M. Sc. and Ph.D. research work of his students.

Dr. O. P. Gupta continues to be active after his retirement in promoting Weed Science through his new book 'Modern Weed Management' published in 1998 which fetched him fame and a Gold Medal from the Indian Society of Weed Science. Dr. Gupta continues to be on ICAR committees concerned with Weed Science, like the QRT and RAC.

Publishers

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