## About the Book

The quality of the day old chicks is the foundation of poultry business. This book, "Principles & Practices of Hatchery Management" have tried to give the reader management factors for the production of first class day old chicks. At the same time this manual contains several hints for the flock owner and the hatchery man who may positively influence the results. Increased hatchability of 1 percent in large hatcheries would mean much better return. Have a calculation done for your hatchery on "What a 1 percent better hatchability would mean to you". You can be sure that improvements in the hatchery offer great possibilities. We hope this manual may help you.

The purpose of this book,"Principles & Practices of Hatchery Management" is to provide basic information needed for both small and big time hatcheries to function effectively. In particular the use of kerosene incubator for small scale rural hatchery is also included. Since the principles of hatchery operations are same for all classes of poultry, this booklet will be useful for hatching of eggs from chickens, ducks, guinea fowls and quails.

# Principles & Practices of Hatchery Management

Dr. Majdood Ahmad

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By Majdood Ahmad

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## Introduction

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## Preface

Many changes have taken place in hatcheries duering recent years, such as the introduction of computer monitoring and control of the machines, and automation of many day-to-day hatchery operations. Additionally, there is increasing awareness of the role of the hatchery in disease control.

A sound understanding of the principles involved in incubating eggs and hatching chicks is vital to cope with these changes. This guide is designed to explain these principles as related to broiler breeding stock and to highlight the main aspects of hatchery management from egg production to chick delivery.

This guide is provided as a supplement to your hatchery management skills so that you can apply your knowledge and judgment to obtain the best results. Recommendations are based on current scientific knowledge and practical experience. You must be aware of local legislation, which may influence the management practice that you choose to adopt.

Thanks are due to my wife: Dr. Nilofer Ahmad for encouraging me to share the knowledge with the Industry and my daughter; Mrs.Nurin Faruqui for computerized designing the Book. Thanks are also due to Hind Publishers. Hyderabad, India for publishing this book in larger interest of the Industry.

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#### Lead articles

Poultry Bird Welfare, Sadana's Indian Poultry Business Directory (2003-04)

National Symposium on Red Jungle Fowl (2003).

Disease resistance in fowl, Advancements in Veterinary Science (2001)

XX th World Poultry Congress, New Delhi (1996)

XIX th World Poultry Congress, Netherlands (1992)

Indian Society of Genetics & Plant Breeding: Golden Jubilee Symposium (1991)

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### **Books and Directories**

Chicken egg's nutrition, functions and cooking techniques" (2014) & "Guide to Quail Farming" (2013.) "Published by Hind Publications, Hyderabad. 1.

He is co-author of books: "Human Rights in Islam." (2013) and  $^2$ . "The Golden Book of Islam: Religion of Equality, Duties & Peace", 3. (2012 & 2009.) Published by: The Lotus Press, New Delhi, 4.

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Vijayshree award of science & technology (1993) by 6. International friendship society of India, Delhi.

Man of achievement (1999) by International publishing house, 8.

Life time achievement award (2015) by Govt.of india-C.P.D.O.Chandigarh.

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