

## About the Eggs

**T**he eggs of all the species of birds have the same basic components and physiology. However they differ in size, shell thickness, shape and color. Internal and external egg quality has been defined by Kramer (1951) as the properties of any given food that have an influence on the acceptance or rejection of this food by the consumer.

Egg quality is a general term which refers to several standards defining both external and internal quality. External quality is focused on egg size, shell thickness, shape and colour, whereas Internal quality refers to the shell and its associated membranes, chalazae, the germinal disc and the albumen (white); and the yolk and its associated membranes.

Egg structures: An egg has four basic structures. Each component performs specific functions in the development of the embryo.



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CHICKEN EGG'S NUTRITION, FUNCTIONS & COOKING TECHNIQUES

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**DR. MAJDOOD AHMAD**

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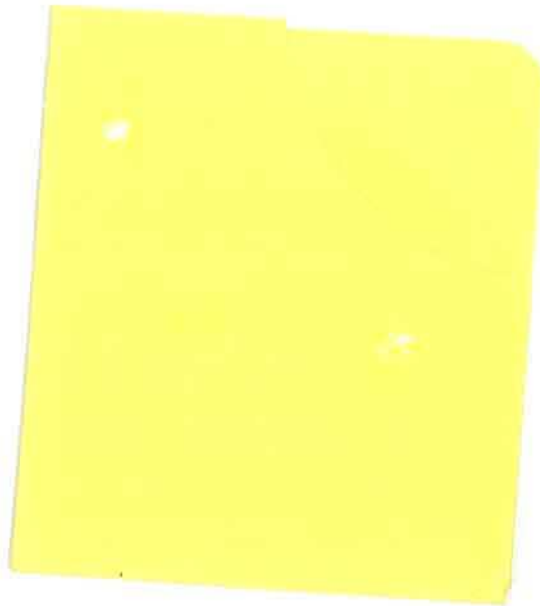
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# **CHICKEN EGG'S NUTRITION, FUNCTIONS & COOKING TECHNIQUES**

By

**Dr. Majdood Ahmad, Ph.D.**  
**(Poultry Science)**

Published By

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## FOREWORD

A significant feature of India's poultry industry has been its transformation from a backyard activity into a major commercial activity in just four decades. This transformation has involved sizeable private sector investments in breeding, hatching, rearing and processing. Farmers in India have moved from rearing indigenous breeds to producing internationally recognized hybrids. With the exception of sterile egg powders exported to Europe, virtually all-Indian poultry and egg production is consumed in South Asia, and most of it in India.

Like Thailand, India's growth in the poultry industry began with the importation of grandparents in 1974 of grandparent stock from Cobb, a dominant multinational firm at the time. Cobb and Venkateshwara Hatcheries set up a joint venture in the 1980's to produce pure-line parent stock. Venkateshwara now exports breeding stock to Nepal, Bangladesh, and Bhutan.

Despite India's growth in consumption, its per capita consumption of these products is poor: 37 eggs and 1 kg of poultry meat per capita per annum. Here, again, there is considerable variation in per capita consumption between rural and urban areas and also across the region. Per capita consumption of eggs is only 8 per annum in rural areas, compared with 29 per annum in urban areas. In seven states, per capita consumption is less than 3.5 per annum. Similarly, per capita consumption of poultry meat is 0.24 kg in rural areas and 0.76 kg in urban areas.

An analysis of consumption data originating from National Sample Survey (NSS) shows that 42 percent of households are vegetarian, in that they never eat fish, meat or eggs. The remaining 58 percent of households are less strict vegetarians or non-vegetarians. Over time there has been a slow shift from strict vegetarianism to less strict vegetarianism. The change is more visible in rural areas than in urban areas, and typically

starts with consumption of eggs. Between 1987-88 and 1999-2000, the proportion of households consuming only one of the three items-fish, meat or eggs-increased by only one percent in urban areas, while in rural areas this proportion increased by four percent (Mehta *et.al.* 2003). [<http://www.fao.org/wairdocs/lead/x6170e/x6170e09.htm#fn6>]

Thus there is need to propagate nutritional value of eggs, Cooking Techniques and brain wash the misconceptions regarding egg cholesterol. This finally led to idea of publishing the book "Chicken Egg's Nutrition, functions and Cooking Techniques" .

The author owes thanks to his wife, Dr. (Mrs.) Nilofar Ahmad for prompting and encouraging to writing this Book and many thanks to the lone daughter Miss Nurin Ahmad for computerizing and designing the Book. Many thanks to Mr. M.K.Vyas ,Chief Editor, Hind Poultry; for encouraging to publish this book through Hind Publications,Hyderabad,India.

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## ABOUT THE BOOK

Egg is laid by females of many different species, including, reptiles, amphiliars, and have been eaten by mankind for thousands of years. Bird and reptile eggs consist of a protective egg shell, albumen (egg white), and vitellus (egg yolk) contained within various thin membranes. Popular choices for egg consumption are chicken, duck, quail, roe and caviar, but the egg most often consumed by humans is the chicken egg, by a wide margin.

"Chicken Egg Nutrition, functions and Cooking Techniques" is highly practical book; written as day to day guide for Governments, producers, traders, and exporters, and other international organizations. It includes chapters on Egg Components, Nutrition, Egg Nutrition and Heart Disease, Utilization of Egg Micronutrients by Chicken Embryo, Manipulating the genetic material of unborn birds, Egg Cooking Basics Egg Cooking Recipes and Techniques and Egg Processing with Catalase. Thus the Book can also be boon to students and faculty members, house wives and entrepreneurs willing to venture into chicken farming and allied ventures including Ways to Cook varieties of egg dishes in Restaurants/Dhabas. Finally shall lead to considerable improvement in per capita consumption of eggs in India.



## ABOUT THE AUTHOR

Dr. Majdood Ahmad, S/O Professor Taiyib Ahmad of Nagpur Mahavidyalay; after graduation from Nagpur Veterinary College (P.K.V., Akola) he joined CPBF, Mumbai (Govt. of India) as Farm Supervisor in 1971. After 3 years of service he availed leave of kind and secured M.V.Sc (Poultry Science) (1976) in Ist Class with Distinction under valuable guidance of Dr. Desai, R.T. from P. K. V. Akola. His grudge for higher education finally awarded study leave to secure Ph.D.(Poultry Science) in first division with distinction under valuable guidance of Dr. Rajmane, B. at Bombay Veterinary College (K.K.V., Dapoli): (2001) He served Govt. of India, Ministry of Agriculture for 38 years in various positions like; Manager, CPBF, Chandigarh, Regional-Director, C.P.D.O's, Chandigarh (E.R.) Mumbai (W.R.) Bangalore (S.R.) & finally retired as Deputy Commissioner (Poultry), Govt. of India, New Delhi in 2007. He is pioneer to introduce Quail Farming in CPBF, Chandigarh and Mumbai. He is a life member of various national & international societies & has been contributing regularly in various journals.

### ***His contributions include:***

**38** Articles published in National and International Poultry Journals/Magazines including:

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

XIX th World Poultry Congress, Netherlands (1992)

XX th World Poultry Congress, New Delhi (1996)

National Symposium on Red Jungle Fowl (2003).

Books / Directories –

Poultry Bird Welfare, *Sadana's Indian Poultry Business Directory* (2003-04) Disease resistance in fowl, *Advancements in Veterinary Science* (2001)

*He is co-author of the book, "The Golden Book of Islam: Religion of Equality, Duties & Peace", (2009&2012.) and "Human Rights in Islam."(2013) published by: The Lotus Press, New Delhi, (2013.)*

He is author of the book "Guide to Quail Farming" published by Hind Publications, Hyderabad. (2013.)

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*After retirement he finally settled in Nagpur with his family*

