

EGGS IN YOUR LIFE

Peter Surai and Ray Noble



Feed-Food Ltd



Dr. Peter Surai started his studies at Kharkov University, Ukraine, where he obtained his PhD and DSc in biochemistry studying effects of antioxidants on poultry. Later he became Professor of Human Physiology. In 1994 he moved to Scotland to continue his antioxidant related research in poultry and in 2000 he was promoted to a full Professor of Nutritional Biochemistry at the Scottish Agricultural College. Now he is a visiting professor there. Recently he was awarded Honorary Professorships in 5 universities in various countries. In 2010 he was elected to the Russian Academy of Agricultural Science as a foreign member. He has more than 650 research publications, including 125 papers in peer-reviewed journals and 8 books. In 1999 he received the prestigious John Logie Baird Award for Innovation for the development of “super-eggs” and, in 2000, The World’s Poultry Science Association Award for Research in recognition of an outstanding contribution to the development of the poultry industry. For the last 10 years he has been lecturing all over the world visiting 70 countries.



Ray Noble holds an Honours Degree in Agricultural Biochemistry from the University of Durham and a Ph.D. for his study on the effects of gonadal hormones on aspects of avian mineral metabolism using radioisotopes. He was awarded a D.Sc. by the University of Newcastle for research and published work on lipid metabolism. His career has covered basic biochemical research with additional teaching involvements at graduate and postgraduate levels. In 1989 he was appointed to be Head and Professor of the Department of Biochemical Sciences at the Scottish Agricultural College. His major areas of interest embrace lipid metabolism in mammalian and avian species, male infertility and sperm function, nutrition and health and radiotracer methodology. He is author of more than 440 original research papers, chapters and reviews and has been the recipient of a wide range of national and international awards, research funding, sponsorships and consultancies. He is involved in fifteen national/international patents in various aspects of biotechnology. His personal awards include an International Atomic Energy Award, a Scottish Institute of Bankers Prize, the Tom Newman Memorial Medal and International Award for meritorious contribution to avian research and Scottish Food and Drink Award for Best New Innovative Product.

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*An egg a day
keeps diseases at bay*



The egg is “an axisymmetric elliptical spheroid reproductive body produced by females of animals, enclosed in a protective layer and capable of developing into a new individual”

Oxford English Dictionary



PREFACE

Which came first, the chicken or the egg? Answer - the egg of course. The egg existed some hundreds of millions years before the chicken as a format for the reproduction of the first land-dwelling animals - the reptiles. The present day chicken's egg is a highly refined version of this reproductive adaptation to life on land, making its appearance a mere four or five thousand years ago. The subsequent period has been more than enough for the egg to be seen as possessing a unique range of properties from which we can take full advantage. These include:

- ceremonial rituals and traditions, symbolic and otherwise - many of which, after centuries, still remain as vital and significant components of present day annual celebrations and ceremonies, for example the commemoration of religious and social events (Easter, births, marriages etc).
- a source of compounds and chemicals to satisfy specific aspects of manufacturing and commercial interests, for example polymers, pharmaceuticals etc.

But most significant is their extensive role in our past and present diet

Although it was never the intention that the egg be eaten, eggs have been a staple component of the human diet since the earliest of times. From the hunter-gatherers collecting wild bird eggs, to the domestication of the jungle fowl, which ultimately led to the present-day bird, able to deliver a stable, reliable and consistently high supply of eggs. The roles of the egg within the modern diet are such that it has to be considered to date as one of the most versatile ingredients in our nutrition.

The egg is still referred to as “humble” but its value and input to our general and specific dietary requirements are such that the term is quite inappropriate. With worldwide annual egg production now exceeding some sixty million metric tons from a total laying flock of approximately six and a half billion hens, the role of the contemporary laying bird has come a very long way from its origins.

However, under the eagle eye of contemporary nutritional science and interpretative abilities, the egg has most recently been at the receiving end of highly vocal criticism. This is in spite of the nutritional acceptability of the egg having been the subject of the most rigorous statistical test that could ever be devised in terms of time (thousands of years) and replication (a world based population). Surely this is proof enough for an unblemished nutritional role for the egg - or has there existed a fault line all along? As an interested reader and consumer, you are invited to read on. . .

Peter Surai and Ray Noble, 2013.



**The egg is one of the most versatile
ingredients in our diet.**

In praise of the egg

O! Egggy Egg my Valentine,
Exquisite shape and tastes divine,
To please my ego - do be mine,
And say that YOU will with me dine.

Ray Noble, 1959





INTRODUCTION

A good beginning makes a good ending

Some 1600 years ago the Greek philosopher Hippocrates stated “Let the food be your medicine and the medicine be your food”. In modern terms this can be translated more simply as “You are what you eat”. The statement, although not strictly true, still has substantial validity. It is now well recognised that “what we are” is determined by input from a whole range of features that make up our lifestyle and over which we, as individuals, are capable of optional control to a larger or lesser extent. Obvious features include diet, stress, smoking, exercise, medical intervention - to name but a few.

However, diet remains a pivotal determinant and the kitchen can rightly be said to be its control centre. In present day nutrition, the dramatic expansion of food products, both good and bad, their ease of availability, the persuasive nature of marketing and appealing taste are all major players to be considered. Each bears a responsibility for the now all too obvious collective consequences that have led to the well voiced decline in our health and well being. Governmental and professional concerns aimed to turn this tide of self neglect have been, and generally continue to be met by a “canute like” response from a society seemingly hell bent on some sort of self destruction.

Golden Egg

In ancient times we have been told
A goose did lay an egg of gold,
She did produce one every day,
So regular this goose did lay.
But her stupid foolish master
Wanted her to lay them faster,
And he at last the goose did kill,
Gold grist no more came to his mill.
But a strange tale we now unfold,
In California's mines of gold,
There they keep both hens and chickens,
'Mong the gravel scratching pickings.
But hens do find the golden shiner,
Is too heavy for their dinner,
For it they cannot well digest,
As it lies solid in their breast.
Then they are slain and you behold
In their craw the shining gold,
Made up of particles so fine,
The purest gold in all the mine.
Then how happy is the miner,
When he has sweet fowl for dinner,
And he doth find within its craw,
A little golden bonanza.
And in Ontario the hen
Is worthy of the poet's pen,
For she doth well deserve the praise
Bestowed on her for her fine lays.

James McIntyre