
Editorial

In this issue we are continuing our programme of publishing a selection of the review papers presented by invited speakers at the World's Poultry Congress in Montreal.

Two of the papers are on topics related to eggshell matrix proteins. Jose Arias from Chile reviews the role of extracellular matrix molecules on shell formation and structure. Yves Nys from the INRA, Nouzilly in France considers the biochemical and functional characterisation of eggshell matrix proteins. Their work is part of a highly successful and valuable international collaborative research project with other specialist groups in Canada, Scotland, and in Israel, studying the ultrastructure of the eggshell.

Vern Christensen from North Carolina State University examines factors associated with early embryonic mortality. His paper describes the patterns of mortality, summarises the causes and goes on to describe factors affecting development at oviposition, egg storage and incubation. David Sklan from the Hebrew University at Rehovot, Israel describes the development of the gastrointestinal tract in the chick. He stresses the importance of the intense development immediately after hatch when the transition occurs from the embryo's dependency on the yolk for its energy supply to utilising carbohydrate-rich exogenous feed.

Mechanisms regulating drug and pesticide residue uptake by egg yolks are not only of great concern in human food safety but may also have some bearing on the viability of the developing embryo. In his paper, Dan Donoghue from the University of Arkansas reviews the physiology of egg yolk formation as it relates to residue incursion. He describes models developed to study residue patterns and the use of magnetic resonance imaging in detecting the incorporation of potentially harmful residues into eggs.

Genetic engineering, while playing no part in the breeding of commercial poultry, holds great promise in the development of improved poultry vaccines. Eva Nagy from Guelph, Canada shows how its application to bacteria and viruses can not only improve diagnostic processes but could also be used in the production of multivalent and multi-pathogen vaccines.

The review of the advantages and disadvantages of keeping laying hens in battery cages and the history of how and why cages came into worldwide commercial use by one of our leading behavioural scientists, Ian Duncan, is both constructive and timely. Welfare considerations apart, he rightly concludes that, in the end, the general public must decide whether or not they are prepared to pay more for eggs produced from alternative systems.

Every other year comes the round of WPSA European Symposia and no fewer than five were held this year during the month of September, starting with the Poultry Welfare Symposium at Zollikofen, Switzerland and finishing with the Nutrition Symposium in Blankenberge, Belgium at the end of the month. Although the terrible events in the USA cast a dark cloud over some of the later events and understandably reduced the expected attendance of scientists from the USA, there was a total of around 750 registered participants at the five meetings. Brief reports from the organisers are included here.

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Editor