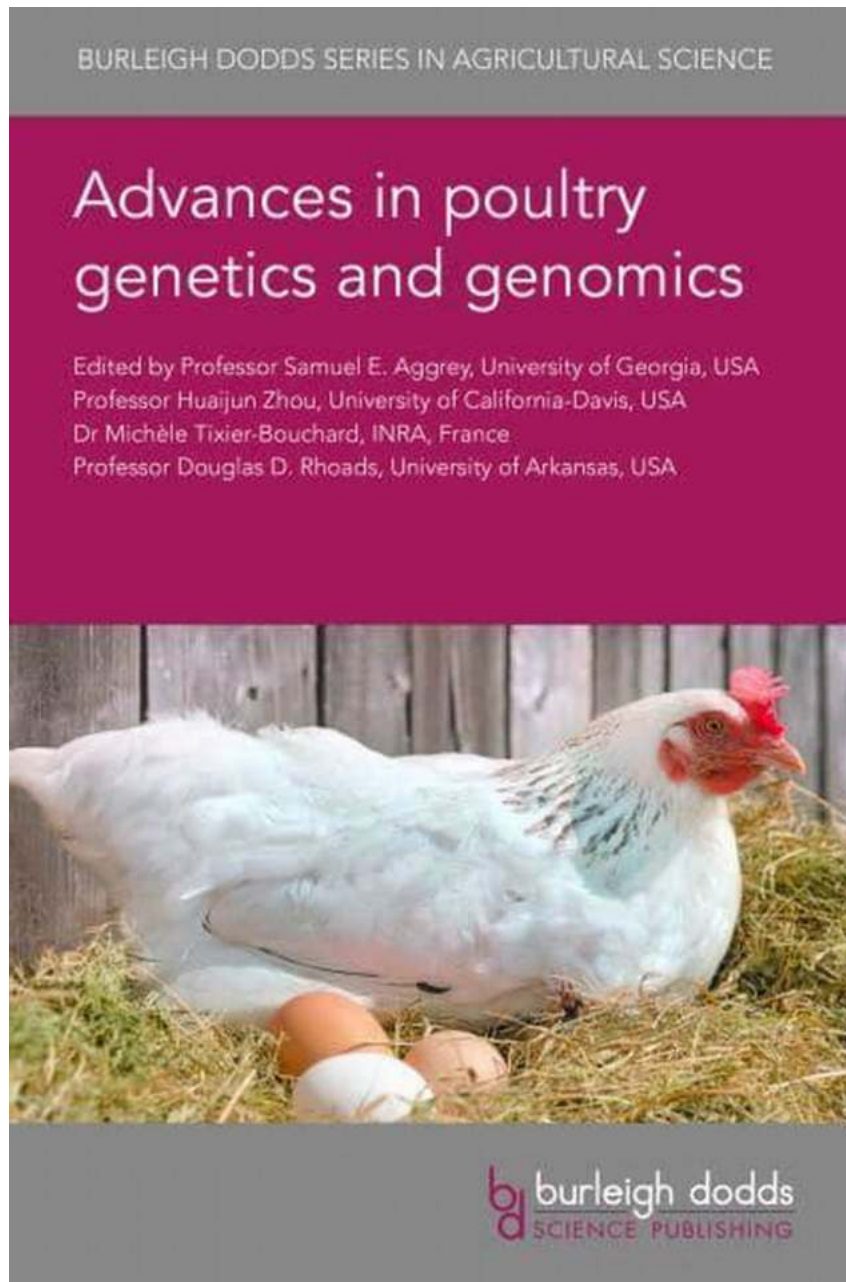


# Exciting Breakthroughs in Poultry Genetics and Genomics - Burleigh Dodds in Agricultural

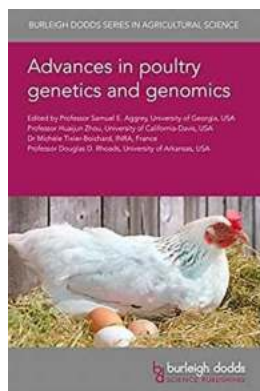


Poultry farming has come a long way since its humble beginnings. Thanks to the remarkable advancements in genetics and genomics, the industry has witnessed

a revolution in terms of productivity, efficiency, and quality. Burleigh Dodds, a renowned expert in agricultural research and publishing, has been at the forefront of disseminating the latest developments in poultry genetics and genomics. In this article, we will explore the exciting breakthroughs made in this field.

## The Power of Genetics in Poultry

Genetics forms the foundation of poultry breeding programs. Selective breeding is crucial for enhancing desirable traits such as growth rate, feed conversion efficiency, disease resistance, and meat quality. The emergence of genomic tools has revolutionized the way poultry breeders make these selections.



### Advances in poultry genetics and genomics (Burleigh Dodds Series in Agricultural Science, 79) by Alexander K Hartmann (1st Edition, Kindle Edition)

★★★★★ 5 out of 5

Language : English  
File size : 7110 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Print length : 786 pages



Through genetic mapping, researchers have identified specific genes associated with various traits. This knowledge allows breeders to implement marker-assisted selection (MAS), a technique that enables accurate identification of superior individuals at an early age. By knowing the genetic potential of each bird, producers can tailor their breeding programs to maximize productivity and quality.

## Genomic Selection and Its Impact

Genomic selection is a cutting-edge technique that builds upon promising discoveries in poultry genetics. By using high-resolution DNA markers, researchers can predict the breeding value of an individual based on its genotype. This non-destructive and cost-effective method has transformed poultry breeding programs worldwide.

The integration of genomic selection has accelerated genetic progress significantly. Breeders can now identify and select superior breeding birds with enhanced accuracy and efficiency. This technology has led to drastic improvements in traits related to, for example, growth, feed efficiency, and egg production. The genetic potential of each bird can be harnessed to create a healthier, more efficient, and ultimately, a more sustainable poultry industry.

### **Improving Disease Resistance**

One of the greatest challenges in poultry farming is combating diseases. Genetic advancements have played a crucial role in enhancing disease resistance through selective breeding programs. Researchers have identified specific genes responsible for resistance to major poultry diseases, such as avian influenza and Newcastle disease.

By selectively breeding birds with innate resistance to diseases, producers can develop more resilient flocks. This reduces the need for antibiotics and minimizes the negative impacts of diseases on poultry production. Moreover, genetic advancements have paved the way for enhanced vaccines and targeted treatments, thus further reducing disease incidence in poultry populations.

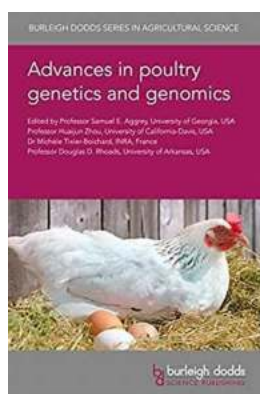
### **Breeding for Meat Quality and Efficiency**

Poultry meat quality is a decisive factor for consumers. Advances in genetics have enabled breeders to enhance desirable traits that contribute to meat quality,

such as tenderness, juiciness, and flavor. Through genetic markers, researchers can identify birds with specific characteristics related to meat quality and incorporate them into breeding programs.

Furthermore, genetic advancements have improved feed conversion efficiency, a critical factor in the poultry industry. Birds that convert feed into meat more efficiently have a lower environmental impact and contribute to sustainability. By incorporating genes associated with improved feed efficiency, breeders can raise birds that require less feed to produce the same amount of meat.

The field of poultry genetics and genomics has experienced remarkable advancements in recent years. These breakthroughs have revolutionized poultry breeding programs, resulting in improved productivity, disease resistance, and meat quality. Burleigh Dodds, a leading authority in agricultural research, remains at the forefront of disseminating these groundbreaking discoveries to agricultural professionals worldwide. Stay up-to-date with the latest trends and developments in poultry genetics and genomics through their publications and be a part of the exciting future of poultry farming.



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"This book gives a good overall review of the advances that have recently occurred in the fields of poultry genetics and genomics...one thing that really struck me about this book was the calibre of the editorial team and the international range and expertise of the contributing authors. With over 550 pages this book is well worth its place on the bookshelf of anyone who is interested in poultry breeding and genomics."International Hatchery Practice

The poultry breeding sector faces a number of challenges, including the need to produce more resilient breeds in the face of disease, antibiotic resistance, increasing consumer concerns about bird health and welfare and expectations of poultry meat and egg quality.

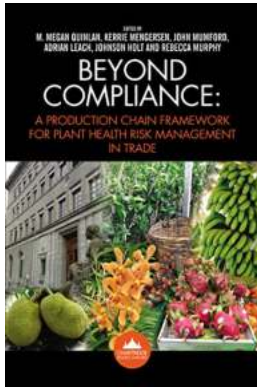
Advances in poultry genetics and genomics provides a comprehensive review of the recent developments in poultry genetics, breeding and genomics, focussing on the improvement of functional traits to build resilience, the use of genomic selection and its application in breeding improved layers and broilers, as well as the sector's emerging trends such as epigenetics and genome editing.

With its distinguished editor team and international range of expert contributors, Advances in poultry genetics and genomics will be a standard reference for poultry scientists, companies involved in poultry breeding and government agencies supporting the poultry sector.



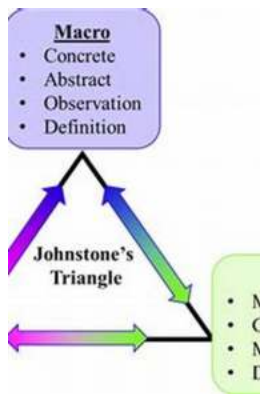
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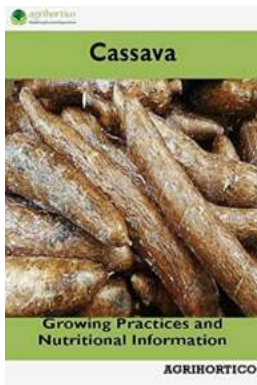
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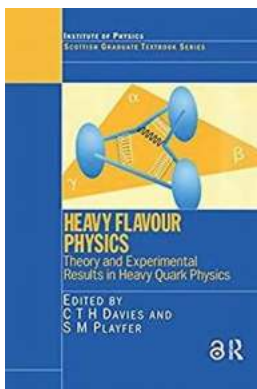
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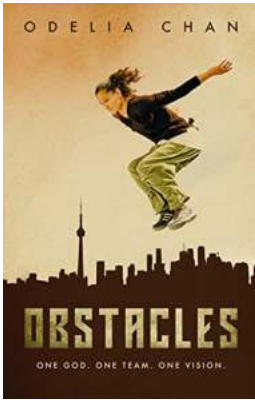
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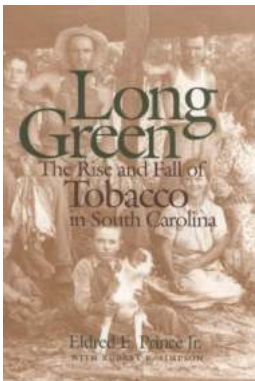
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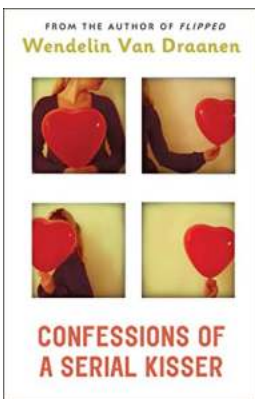
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