

Diseases Control Strategy in Poultry Farming

Contents:

Flip-over Disease: An Introduction: Fowl Cholera • Goose Parvovirus Infection • Helminthiasis • Mycotoxicoses

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Egg Drop Syndrome: An Introduction: Avian Pneumovirus • Myopathies • Deep Pectoral Myopathy • Mechanically Induced Myopathy • Transport Myopathy of Turkeys • Rupture of the Peroneus (Fibularis) Longus Musclic • Disorders of the Skeletal System • Noninfectious Skeletal Disorders • Infectious Skeletal Disorders • West Nile Virus Infection in Poultry • Ectoparasites • Chicken Mite • Dermanyssus Gallinae, Skin Lesions • Scaly Leg Mite • Disposition and Fate of Drugs: Overview • Drug Absorption • Drug Distribution

Veterinary and Poultry Farm Formulations: Chicken Vaccine • Bacterial Diseases • Escherichia Coli Infections • Salmonellosis • Paratyphoid Infections • Fowl Cholera • Riemerella Anatipestifer Infections • Mycoplasma • Necrotic Enteritis

Cholangiohepatitis in Broiler Chickens: Gangrenous Dermatitis • Botulism • Avian Tuberculosis • Viral Diseases • Associated Infections • Infectious Encephalomyelitis • Newcastle Disease • Fowl Pox • Reovirus Infections • The Socioeconomic Environment of Newcastle Disease Control Strategies for Backyard Poultry Systems

Community-based Control Strategy: Backyard Flock Dynamics • Neoplastic Diseases in Poultry • From the Point of View of Differential Diagnosis, the Following Features Deserve a Special Emphasis • Parasitic Diseases

About the Editor

Quentin Perez is Associate Professor of Poultry Processing and Products Technology, Food Safety and Quality. He has authored two books: Monitoring and evaluation of training programmes for poultry farmers, and Women in livestock production and economics. Mr. Perez's several articles and research papers have been published in reputed journals.



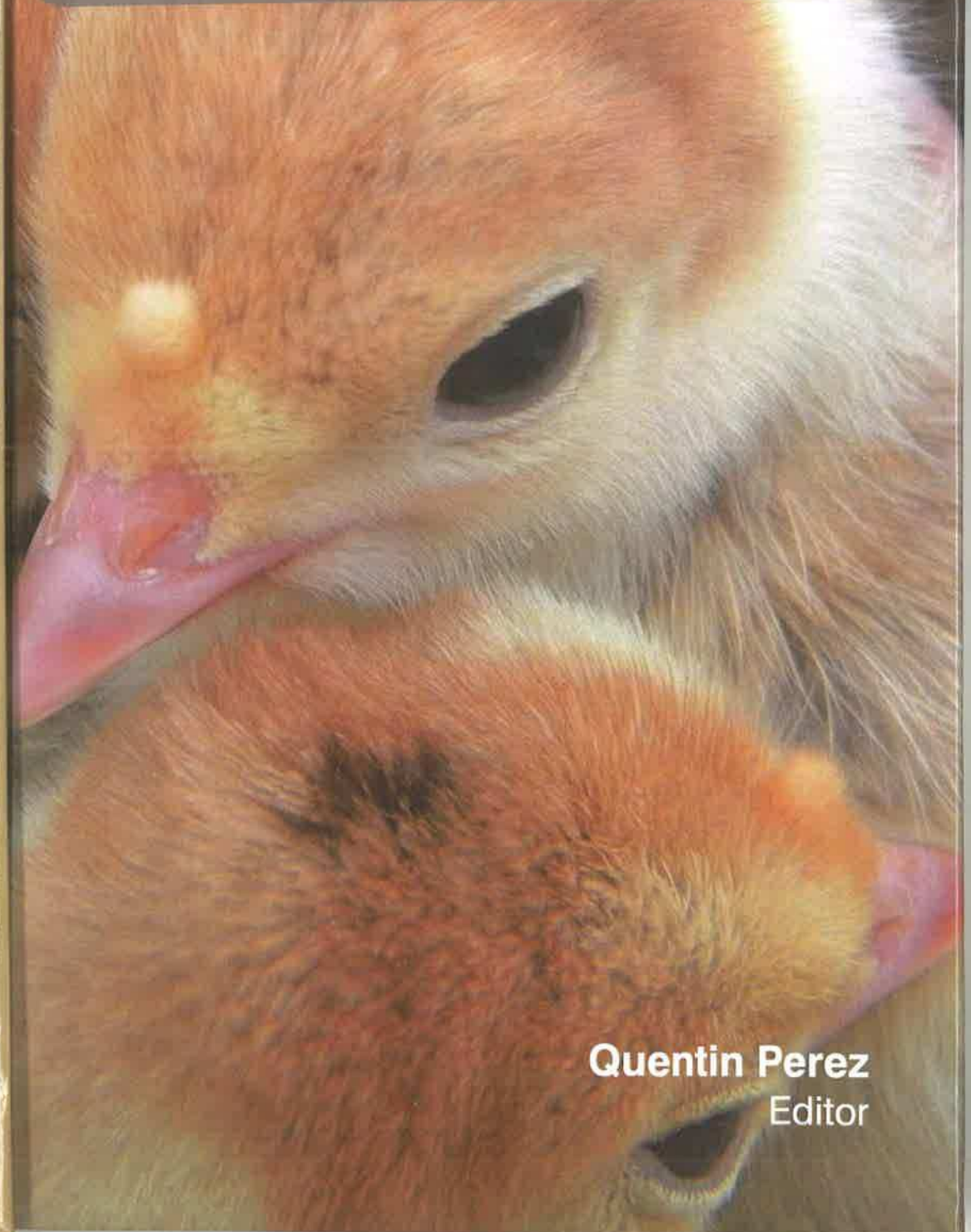
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Quentin Perez
Editor

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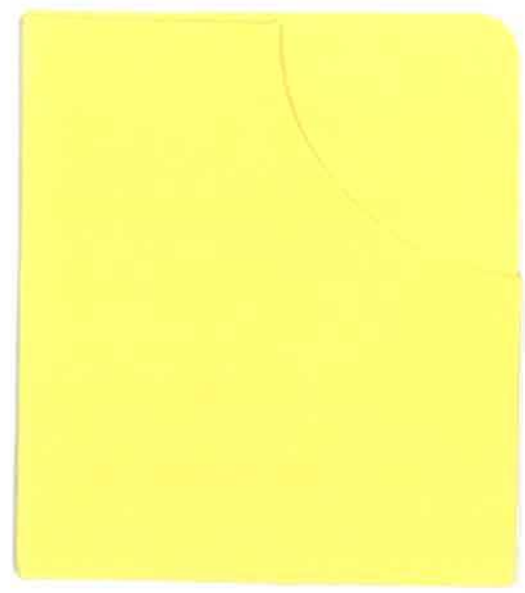


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Quentin Perez
Editor



KOROS PRESS LIMITED
London, UK

Diseases Control Strategy in Poultry Farming

© 2012

Published by

Koros Press Limited

3 The Pines, Rubery B45 9FF, Rednal,
Birmingham, United Kingdom

Tel.: +44-7826-930152

Email: info@korospress.com

www.korospress.com

ISBN: 978-1-78163-194-2

Editor: Quentin Perez

Printed in UK

10 9 8 7 6 5 4 3 2 1

British Library Cataloguing in Publication Data

A CIP record for this book is available from the British Library

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Preface

Poultry production must be seen as only one of many household and farm activities, and is rarely the priority concern, even of women who tend to value it more highly than men. Other responsibilities such as household duties, other livestock or seasonal crop-related work can take precedence over poultry activities. It is, therefore, not clear how much additional time some households are prepared to commit to activities like poultry disease control. Customary practices can also complicate vaccination campaigns. The transfer and movement of chickens between villages and regions is a fundamental part of the extensive system, enabling owners to use birds for celebrations, gifts and as ready sources of cash. These movements influence the epidemiology of the disease, and complicate the monitoring and control of vaccination cover. Mass vaccination campaigns have also been hampered by absence of producers at key times, and reports of outbreaks following previous campaigns. Most producers appear well informed about Newcastle disease and its impact, but it is only one of numerous health constraints threatening backyard flocks. There is widespread incidence of fowl pox, infectious bursal disease, losses to predators, and internal and external parasites, as well as considerable management and husbandry constraints. No information is available on what proportions of losses are a result of different diseases or problems, and no quantitative data are available on the specific losses attributable to Newcastle disease.

The absence of a complete production and health extension package specifically aimed at extensive poultry producers was highlighted by the study. Since a sustained control strategy depends upon producer commitment, the benefits of that commitment must be clear and acceptable to the farming community. While there remain gaps in the services offered to backyard producers, limited commitment toward isolated health campaigns such as Newcastle disease vaccination can only be expected. This may be one reason why extensive poultry producers have limited interest in Newcastle disease control. In addition, it is not clear how great a threat backyard producers perceive New-castle disease to be. In commercial systems, the threat is

significant when large numbers of birds, in confined areas, can die within short time periods as a result of an outbreak. In extensive flocks, however, some birds can be salvaged in the face of an outbreak, through consumption, sale or gift. Such strategies will greatly effect the true economic loss associated with an outbreak, but may not be reflected in the statistics of birds that die or are slaughtered in response to an outbreak. A question remains over the readiness of backyard producers to adopt any strategy based on the use of supplementary feeds that do not currently feature in many backyard production systems. Not only does the purchase of feed grain represent a constraint to some producers, delivery procedures are also open to misapplication and problems of monitoring. Involving producers in feed-based vaccine delivery may, in practice, prove no less problematic than facilitating their participation in more conventional techniques. Zimbabwe now uses V4 delivered by intra-ocular route, and is training individual producers how to handle and apply the vaccine in this way. It appears that the skills are being readily transferred to producers that catching birds is not a problem, and that subsequent vaccinations will be handled by producers themselves, with only limited input from veterinary staff.

This book is prepared as a practical guide for both large and small poultry keepers and those interested in starting a poultry enterprise.

—*Editor*

Chapter 1

Flip-over Disease: An Introduction

(Sudden death syndrome, Heart attack, Acute death syndrome, Fatal syncope, Lung edema, Lung congestion, Dead in good condition)

Flip-over disease has been reported in most areas of the world that intensively raise broilers. Young, healthy, fast-growing broiler chickens die suddenly with a short, terminal, wing-beating convulsion. Many affected broilers just "flip over" and die on their backs; 60-80% are males. The condition is uncommon or unrecognised when low-density feed is used and the ratio of feed intake to weight gain is >2.5 at 6 wk, or when broilers take 8 wk to reach 2 kg.

Etiology and Epidemiology

The cause is unknown but probably is a metabolic disease related to carbohydrate metabolism, cell membrane integrity, and intracellular electrolyte balance. Death may result from ventricular fibrillation. The modern broiler tends to overeat and continues to grow rapidly while maintaining a low feed-to-gain ratio. Flip-over appears to be related to high carbohydrate intake. It is not known whether a genetic predisposition exists.

Incidence in a rapidly growing healthy broiler flock is typically 1-4%.

Clinical Findings

Broilers show no premonitory signs. They appear healthy and may be feeding, sparring, walking, or resting, but suddenly extend their necks, gasp or squawk, and die rapidly with a short period of wing beating and leg movement, during which they frequently flip onto their backs. They also may be found dead on their sides or breasts.

Flip-over may occur as early as day 3 and may continue until 10-12 wk in roaster flocks. Peak mortality varies but usually is between days 12 and 28, although it can be as early as day 9. It may occur

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