

AVIAN NUTRITION

(Poultry, Ratite and Tamed Bird)

NITYANAND PATHAK



Contents of the book: 1. Introduction; 2. Feeds of Poultry; 3. Nutrients; 4. Function of Nutrients; 5. Feed Additives; 6. Anti-nutritional Factors in Poultry Feed Ingredients; 7. Harmful and Toxic Fungi in Foods (Mycotoxicosis and Mycoses); 8. Physical Quality Assay of Feeds; 9. The Digestive System, Digestion, Absorption and Metabolism; 10 Poultry Feed Processing Technology; 11. Feed Formulation for Poultry; 12. The Ratites (Flightless Birds); 13. Eggs and Meat for Food; 14. Red Jungle Fowl; 15. Domestic Fowl (*Gallus domesticus*); 16. Pea Fowl (*Pavo spp.*); 17. Japanese Quail (*Coturnix coturnix*); 18. Partridges; 19. Turkey (*Meliagridis sp.*); 20. Parrots; 21. Pigeon (*Columba livea*); 22. Bulbul (*Pycnonotus*); 23. Mayana/ Mynah/Myna (*Strunidae* birds); 24. Saras Crane (*The Grus*); 25. Swan (*Cygnus spp*)

Related Titles

Poultry Production and Management

by Gupta, S K

Poultry Diseases

by Mondal, M M



**Narendra Publishing House
Publishers & Distributors**

C-21, Varun Apartment, Sector -9, Rohini

NEW DELHI - 110085

Ph.: 011-45025794, +9197178748745

Email: info@nphindia.com; nphindia@gmail.com www.nphindia.com

ISBN 978-93-88668-62-0



AVIAN NUTRITION



NITYANAND PATHAK



AVIAN NUTRITION

(Poultry, Ratite and Tamed Bird)

NITYANAND PATHAK



636.508 4 PAT/A

CASMTV



1 6 0 9

AVIAN NUTRITION

(POULTRY, RATITE AND TAMED BIRD)

By

NITYANAND PATHAK

B.Sc., B.V.Sc. & A.H., M.V.Sc., Ph.D.,

FNVS, FANA, FMob S,

113 B Vatika Suncity Vistar,
Izatnagar, Bareilly-243122 (UP)



NARENDRA PUBLISHING HOUSE

DELHI (INDIA)

Copyright © 2020, Narendra Publishing House, Delhi (India) and author

All rights reserved. Neither this book nor any part may be reproduced or used in any form or by any means, electronic or mechanical, including photocopying, microfilming, recording, or information storage and retrieval system, without the written permission of the publisher and author.

The information contained in this book has been obtained from authentic and reliable resources, but the author/publisher cannot assume responsibility for the validity of all materials or the consequences of their use. The author/ publisher have attempted to trace and acknowledge the materials reproduced in this publication and apologize if permission and acknowledgements to publish in this form have not been given. If any material has not been acknowledged please write and let us know so we may rectify it.

Second Edition 2020

ISBN: 978-93-88668-62-0

Published by :

NARENDRA PUBLISHING HOUSE

Publisher and Distributor

C-21, Varun Apartment, Sector -9, Rohini

NEW DELHI - 110085

Phones: 91-011-45025794, +919717874875

E-mail: info@nphindia.com, nphindia@gmail.com

Website: www.nphindia.com

Laser Typeset by Amrit Graphics, Shahdara, Delhi 110 032

Printed in India

Contents

| | |
|---|-----|
| <i>Preface</i> | vii |
| <i>About the Author</i> | ix |
| 1. Introduction | 1 |
| 2. Feeds of Poultry | 16 |
| 3. Nutrients | 44 |
| 4. Function of Nutrients | 64 |
| 5. Feed Additives | 97 |
| 6. Anti-nutritional Factors in Poultry Feed Ingredients | 110 |
| 7. Harmful and Toxic Fungi in Foods | 119 |
| (Mycotoxigenesis and Mycoses) | |
| 8. Physical Quality Assay of Feeds | 129 |
| 9. The Digestive System, Digestion, Absorption and | 138 |
| Metabolism | |
| 10. Poultry Feed Processing Technology | 157 |
| 11. Feed Formulation for Poultry | 176 |
| 12. The Ratites (Flightless Birds) | 186 |
| 13. Eggs and Meat for Food | 199 |
| 14. Red Jungle Fowl | 233 |
| 15. Domestic Fowl (<i>Gallus domesticus</i>) | 238 |

| | |
|--|-----|
| 16. Pea Fowl (<i>Pavo</i> spp.) | 240 |
| 17. Jananese Quail (<i>Coturnix cotunix</i>) | 245 |
| 18. Partridges | 247 |
| 19. Turkey (<i>Meliagridis</i> sp.) | 252 |
| 20. Parrots | 259 |
| 21. Pigeon (<i>Columba livea</i>) | 263 |
| 22. Bulbul (<i>Pycnonotus</i>) | 269 |
| 23. Mayana/Mynah/Myna (<i>Strunidae birds</i>) | 273 |
| 24. Saras Crane (<i>The Grus</i>) | 278 |
| 25. Swan (<i>Cygnus</i> spp) | 282 |
| <i>Subject Index</i> | 286 |

Preface

Chicken production for nutritious table eggs and low fat meat is now a well established commercial enterprise occupying fifth and sixth positions in egg and meat production in the world. Indeed production is much less than the requirements. Due to increasing prices of foods it is becoming difficult for a considerable population to include proteinous foods of high nutritive value. Revival and extension of backyard poultry farming on scavenging with partial supplemental feeding may be helpful in increasing nutritional levels of such families. Introduction of large size ratite avian species may be economical due to capacity of these birds for extracting nutrients from the herbaceous forages. The enteric symbiotic microbial inhabitants provide ability of digestion of fibrous (cellulosic) feeds.

Basic information's on social birds like Parrot, Pigeon, Partridges, Mayana, Peo fowl, Bulbul, Saras crane and Swan. will enrich the academic capacity of the natural for a family having a parrot in cage to know more about the foods, habits and behavior of the bird. Such aspects have been ignored in most of the titles on poultry and other avian species.

In the preparation of this book assistance and comfort provided by Anuvrat and Priyabhashni helped to complete the task in short time. Dr. S.K. Saha helped in collection of some information's from the library. The assistance from different corners is acknowledge.

Nityanand Pathak