Encyclopaedia of

Broiler Breeder Production

Production, Feeding and Management Techniques

Properly managing the sexual maturation of the modern broiler breeder female is critical to obtaining a high peak and large overall number of quality hatching eggs. The most critical management period for broiler breeders is from photo stimulation (lighting) to peak production. Management deficiencies during this period are always cost-effective and often cannot be compensated for at a later stage. Broiler breeders require nutrients for maintenance, growth and egg production. Maintenance needs are met first and until that happens, growth and egg production is virtually declined. Adjusting the feed allotment throughout the lay cycle controls bird nutrient intake. Intake must be strictly controlled to prevent hens from becoming overweight resulting in decreased egg production. Flocks must be uniform in weight and body condition in order to properly allocate feed allotments. Uniformity is especially critical at the time of lighting. Flocks that vary excessively in uniformity are nearly impossible due to proper management from a feed allotment standpoint. This encyclopaedia is carefully edited and designed in as a such way that the presentation of the subject is clearly understandable.

About the Editor

Michael Youn has over 12 year of industry experience in Feed Manufacturing and Quality Assurance. He has developed and implemented Quality Assurance Programs and conducted audits at feed mills in the United States and Mexico. His area of specialization is broiler breeder reproductive physiology and nutrition. He has published more than 280 research, review and popular articles, two books on poultry production and a number of pamphlets on poultry science.

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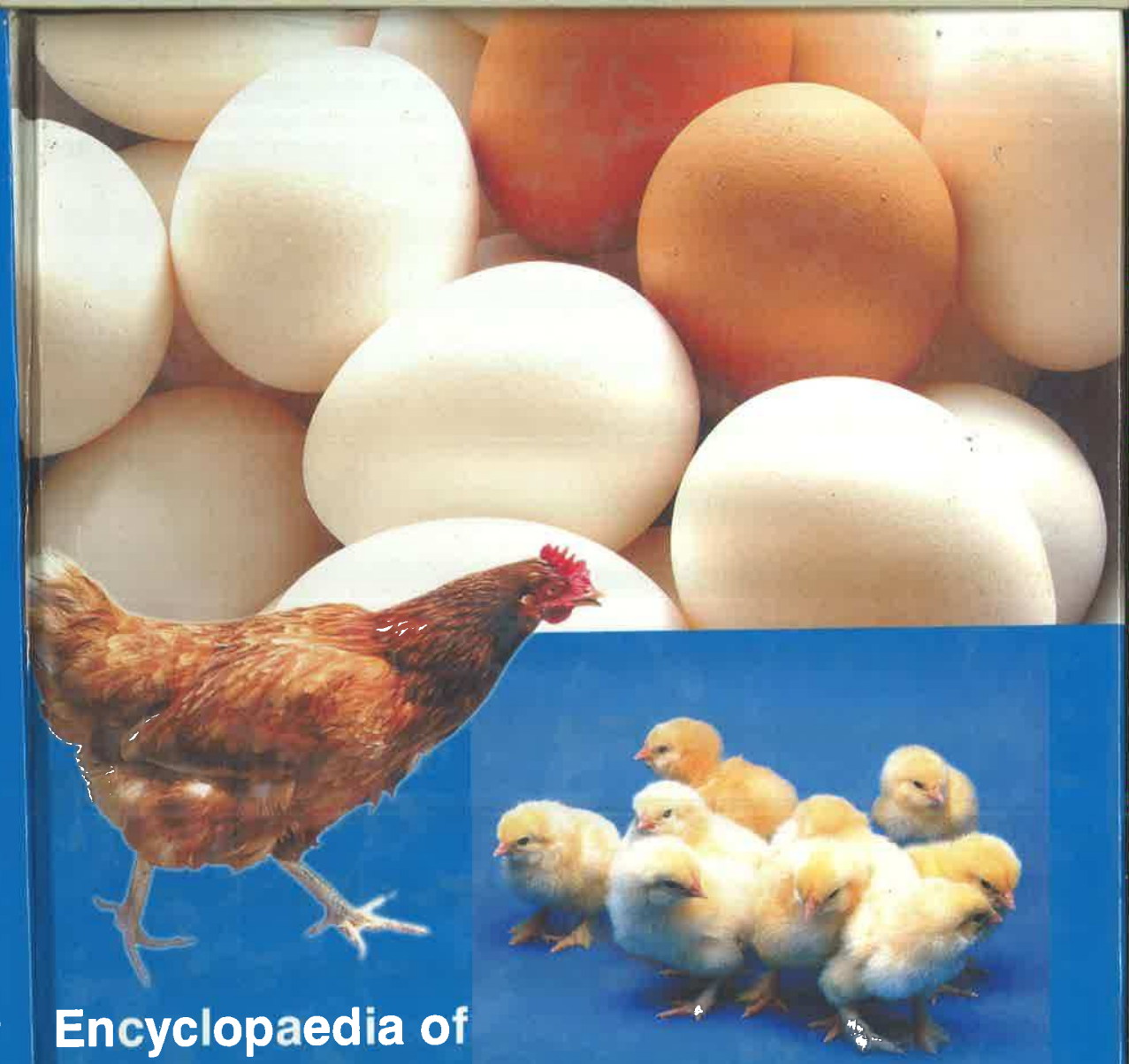

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Contents

Preface

Poultry farming is the practice of raising domesticated birds such as chickens, turkeys, ducks, and geese, as a subcategory of animal husbandry, for the purpose of farming meat or eggs for food. More than 50 billion chickens are raised annually as a source of food, for both their meat and their eggs. Chickens raised for meat are called broilers, whilst those raised for eggs are called laying hens. In total, the UK alone consumes over 29 million eggs per day. Some hens can produce over 300 eggs a year. Chickens will naturally live for 6 or more years. After 12 months, the hen's productivity will start to decline. This is when most commercial laying hens are slaughtered.

The majority of poultry are raised using intensive farming techniques. According to the Worldwatch Institute, 74 percent of the world's poultry meat, and 68 percent of eggs are produced this way. One alternative to intensive poultry farming is free range farming. Friction between these two main methods has led to long term issues of ethical consumerism. Opponents of intensive farming argue that it harms the environment and creates health risks, as well as abusing the animals themselves. Advocates of intensive farming say that their highly efficient systems save land and food resources due to increased productivity, stating that the animals are looked after in state-of-the-art environmentally controlled facilities. A few countries have banned cage system housing, including Sweden and Switzerland. Consumers can still purchase lower cost eggs from other countries' intensive poultry farms.

Poultry breeding remains largely based on classical quantitative genetics. In essence, pedigree broiler candidates are full-fed nutritionally-dense and properly balanced diets to allow individuals that have the greatest potential to utilise crude protein (CP) and metabolisable energy (ME) to grow fast, convert feed efficiently, and yield well to become apparent by their performance. Thus, broiler strains are often selected on high-protein, high-energy diets.

Selection on nutrient dense diets apparently necessitates nutrient-dense diets in order for the progeny to fully express their genetic potential. An excellent example of the relationship between genetic

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