

NUTRACEUTICALS IN LIVESTOCK & POULTRY



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Books



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**Amitav Bhattacharya
Debashis Roy**



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1 Introduction

The term “nutraceutical” was coined from “nutrition” and “pharmaceutical” in 1989 by Stephen DeFelice, MD, founder and chairman of the Foundation for Innovation in Medicine (FIM), Cranford, NJ. According to DeFelice, nutraceutical can be defined as, “a food (or part of a food) that provides medical or health benefits, including the prevention and/or treatment of a disease”. In other words, nutraceuticals are chemical or natural feed ingredients which may enhance health by providing a physiological benefit by the provision of basic nutrients. Enzymes, prebiotics, probiotics, yeast and fungal extracts, predigested hydrolyzed carbohydrates and fats, phytogenic additives, acids etc are included in nutraceuticals. However, the term nutraceutical as commonly used in marketing has no regulatory definition.

A nutraceutical is a product isolated or purified from foods that is generally sold in medicinal forms not usually associated with food. A nutraceutical is demonstrated to have physiological benefit or provide protection against chronic disease. On the other hand, “functional food” is similar in appearance to a conventional food that is consumed as a part of usual diet, and is demonstrated to have physiological benefits to reduce the risk of chronic disease beyond basic nutritional function, i.e. they contain bioactive compound. The different types of nutraceuticals have been classified in Table 1.1. However, only few of them have been studied in detail pertaining to their specific mode of action in different species, synergistic action etc. Studies on nutraceuticals have gained

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READERSHIP: *The book will be useful for all those related to livestock, livestock product development and technology, animal nutrition, poultry sciences and food sciences*

Today, nutraceuticals have been recognized as any natural product, food or dietary supplement that provides medical or health benefits including the prevention of diseases. Keeping these aspects in view, the book covers different types of Nutraceuticals used in livestock and poultry, their role, mode of application, advantages and disadvantages if any.

In chapter 1, the concepts of feeding nutraceuticals have been discussed and classified into several groups. Chapter 2 presents feeding of antibiotics to poultry and livestock species and how it has been gradually replaced by different feed additives preferentially called as nutraceuticals. Chapter 3 to chapter 8 deals with different nutraceuticals often fed to poultry and livestock like probiotics, prebiotics, enzymes, organic acids, fatty acids and phytobiotics. The chapters introduce and classify the corresponding nutraceutical agents and then present a detail discussion on its efficacy as a feed ingredient, mode of action, specific rate of inclusion in the diet.

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