ACTA SCIENTIFIC NUTRITIONAL HEALTH

Volume 3 Issue 7 July 2019

Editorial

Alternative to Antibiotic Growth Promoter, Where We Are Going?

Youssef A Attia[1,2]*

[1]*Professor, Department of Arid Land Agriculture, Faculty of Meteorology, Environment and Arid Land Agriculture, King Abdulaziz University, Jeddah, Saudi Arabia*

[2]*Department of Animal and Poultry production, Faculty of Agriculture, Damanhour University, Damanhour, Egypt*

***Corresponding Author:** Youssef A Attia, Professor, Department of Arid Land Agriculture, Faculty of Meteorology, Environment and Arid Land Agriculture, King Abdulaziz University, Jeddah, Saudi Arabia. **E-mail:** yaattia@kau.edu.sa

Received: May 15, 2019; **Published:** June 01, 2019

The antibiotics at sub therapeutic concentration as productive enhancing agents were used to improve productivity, health and control pathogens for livestock species. However, adverse impacts (carry over effects and cross resistance) have been noticed worldwide, thus urged the prohibition of their use as performance enhancing in animal nutrition. Consumer concerns and negative effects on the environment urged the governments to review the situation. Thus, antibiotics use as growth enhancing materials in food-producing animals was prohibited not only in the Euro Union (EU) at the beginning of 2006, but also later on in other countries. This prompted researchers to search for natural alternatives to antibiotics to reduce hazards through food chain.

Alternatives, such as phytogenic plants and phytogenic extracts are valuable sources of antioxidants and as environmental-friendly agents may be available for antibiotic; however, active substances in phytogenic plants are widely inconsistent because of different processing, agronomic and environmental issues. Researchers suggested proobiotics, prebiotics such as fructooligosaccharides, galactoligosaccharides, trans galactooligosaccharides, and mannan oligosaccharides, synbiotics that is combination of probiotics and prebiotics for synergism, organic acids and their salts as alternatives to antibiotic in nutrition of farm animals and environmental friendly agents. Bee products such as, bee pollen, royal jelly, and propolis, may also be used as alternative and recent results suggested their possible application as growth promoting and immunological augmenting. In recent years, propolis, due to it is multi-microbial impacts for bacterial, virus and fungus infections was suggested as a promising alternative, but limited by amount of propolis production. Enzymes such multienzymes complex and phytase have been recently suggested as alternative to antibiotics. In addition, changes in biosecurity practice, farm hygiene, disease control and effective treatment following outbreaks, enhancing immunological are suggested as tools to overcome the problems resulted from prohibiting the use of antibiotic in the nutrition of animals. These alternatives, however, are possible solution, results in research field is still contradictory and further research is needed in order to overcome the problems associated with antibiotic withdrawal from livestock nutrition such as bacterial disease especially in poultry, low efficiency of production, growth, product quality, high cost of medication and raising health hazards.

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