

# **Drug Interactions In Poultry**

**By**

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## **ABSTRACT**

Using two or more drugs in treating diseased poultry can lead to interactions between them that prescribed on a same birds. Some of these interactions are very harmful and may be have potential treats to poultry health that called antagonism. Different factors like number of prescribed drugs, drugs using without veterinarian advice and prescription and poor knowledge about drugs clinical pharmacology can increase antagonism effects of prescribed drugs. For investigating of this problem, poultry medicine prescriptions evaluated. Interactions of food and dietary supplements with drug metabolising cytochrome P450 enzymes were focused. Drug side effects and toxicity and often the drug efficacy are highly dependent on drug metabolism determining the activation and/or elimination of the respective compound. In poultry, cytochromes P450 are the most important drug metabolizing enzymes of the first phase of drug biotransformation. Their activity can vary due to inter-individual genetic differences, but it can be changed also by inhibition or induction of the enzymes by their substrates or other compounds that are not only drugs themselves and/or drugs taken concomitantly. When administered with different drugs, for examples, tiamulin has been shown to have an enhanced activity with the tetracyclines. There is a strong interaction, even death, with the ionophore anticoccidials monensin, narasin, and salinomycin when tiamulin is used at therapeutic levels, but this is dose-related and low doses do not interact. It is thought to be caused by the preferential metabolism of tiamulin in the liver resulting in a buildup of the ionophore leading to clinical signs of over dosage. Tiamulin shows a milder interaction, such as temporary growth depression, with maduramicin and semduramicin but is compatible with lasalocid. Although tiamulin shows small benefits in improving performance in healthy animals, its main production benefit is in the face of infection, as a true therapeutic antibiotic. We will discuss all forms of pharmacodynamics and pharmacokinetics interactions. Moreover the tables of synergic and antagonistic of most important drugs used and the facts which lead to failure in the field therapy of poultry farms.